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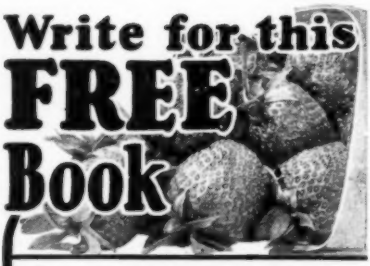

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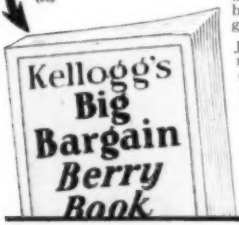


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# Honey Markets

## U. S. GOVERNMENT REPORT

**Information from Producing Areas (first half of November).**

SOUTHERN CALIFORNIA—Sales reported by beekeepers in large lots: Orange, water white, 7½-8¾c, mostly, 7¾-8c per lb; white to extra white, 7½-7¾c, few higher; white, 7-7½c; sage, white, 7½c; extra light amber, 5¾-6c per lb.; sage-buckwheat extra light amber, 5-5¼c; light amber, 4¾-5c; amber mixed flowers, 5c per lb. Imperial Valley, light amber alfalfa, 3 3-5-4¼c; few extra light amber, 4½c; light amber mixed tamarisk-alfalfa-arrow weed, 3½c. White sage comb honey reported sold at $6.25 per case. Beeswax is still dull, but a little more has been sold recently. The market price is reported at 18-20c, few up to 23c per lb.

INTERMOUNTAIN REGION—One carlot sale water white sweet clover and alfalfa reported at 5¾c per lb.; 1 car water white sweet clover, 5c; large lots white extracted have sold at 5-7½c per lb.; few lower; 60s, local sales, mostly 7½-10c, few higher; small pails, 8-11c, few 12c per lb; extra light amber large lots, 4¥-4½c per lb. No. 1 white comb, $3.25-3.75; few, $4.00; fancy, $4.00 per case; No. 2, $3.10 per case. Bulk comb, in shallow frames, large lots, 7c per lb.; 10-lb. pails, 11-12c per lb. Beeswax is reported moving at 16c per lb. cash, 18c in trade.

SUMMARY—The unusually mild fall weather has continued in most areas, permitting bees to fly much later than usual. This late activity has resulted in the consumption of an unexpectedly large amount of stores, but due to the ex-

It's almost Thanksgivin time and me and Ab have been thinkin over what to thank for. There was the drouty summer as was about the best we ever had. Then too is our new business with Mel Pritchard in the combined hog and disease-re-

(Conitnued on page 796.)


# You Can Save 75c on 3 Bee Papers

No beekeeper can learn too much about the bee-business. The more good bee-papers he reads, the more new and valuable ideas he will be apt to learn, all of which should make him more successful.

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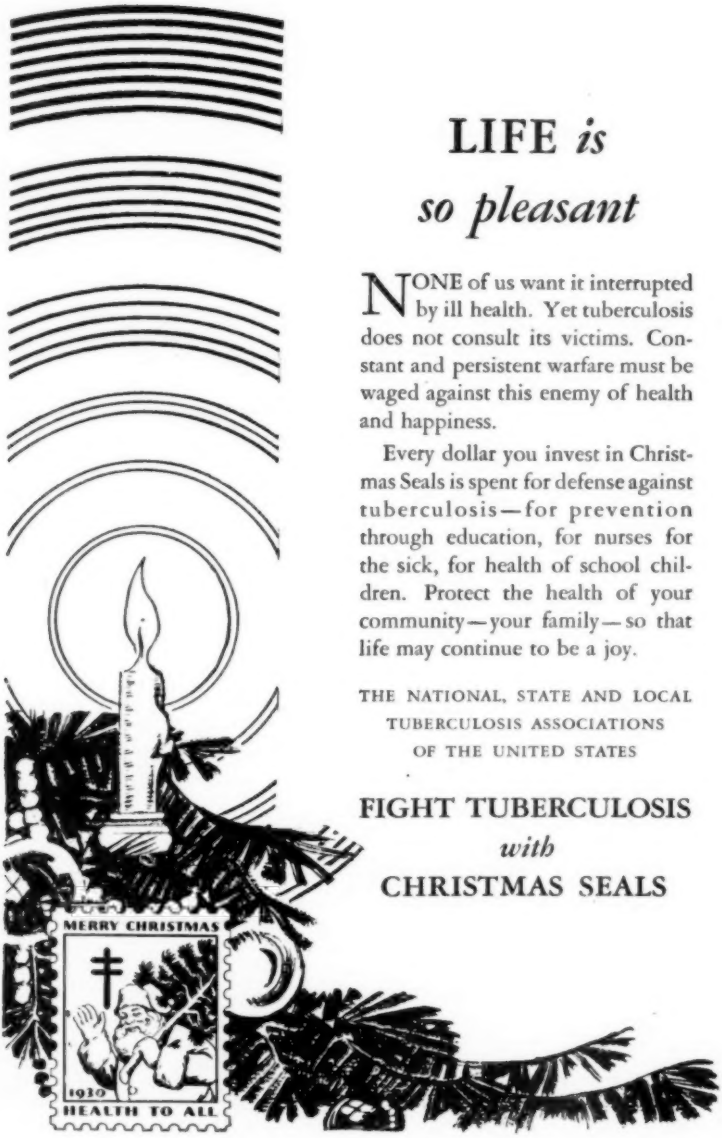
ceptionally abundant late fall flow comparatively little late feeding has been required. Most colonies that are packed for winter have now been taken care of, but colonies which are wintered inside are being left out as long as possible, although in the northern border states many of these have already been placed in cellars. The car-lot demand for honey continues light, both for domestic sale and for export. Already, however, many beekeepers in different parts of the country report that their stocks of honey are now nearly exhausted, indicating that they have sold their honey locally. The sale of honey by the beekeeper in small pails and in bottles to grocers or direct to the consumer continues to be the important feature of the honey marketing picture, and indicates that people will purchase honey if brought directly to their attention. Wrapped comb honey continues to sell well, with unwrapped comb selling at a substantial discount from the price of wrapped. Beeswax may be selling in a little larger volume in some sections, but the market price has not improved.

## Monthly Report of Honey Producers

Early in November we sent the following questions to honey producers: 1. What per cent of the honey produced in your locality has already left the hands of the producers? 2. At what price has honey been sold, or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per lb.? (b) comb honey, fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1 per case? 4. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 6. What is the present condition of the colonies for winter in your locality as compared with normal, considering the number and age of bees and the supply of stores? Give answer in per cent. 7. What is the present condition of the honey plants for next season in your locality as compared with normal? Give answer in per cent. The answers are tabulated as follows:

| State. Name. | Pct. sold. | Large lots. Ex. | Large lots. Comb. | To grocers. Ex. | To grocers. Comb. | Retail. Ex. | Retail. Comb. | Movement. | Honey Col. cond. | Honey Plant cond. |
|---|---|---|---|---|---|---|---|---|---|---|
| Ala. (W. D. Achord) | 90 | .06½ | | $.55 | | $.75 | | Fair | 100 | 100 |
| Ala. (J. M. Cutts) | | | | | | .80 | .25 | Fair | 100 | 100 |
| Ark. (Jas. Johnson) | 50 | | | .90 | $4.80 | 1.00 | | Slow | 75 | 100 |
| Calif. (L. L. Andrews) | | | | .75 | | | .23 | Slow | 90 | 80 |
| Calif. (Geo. Larinan) | 50 | | | | | | | Slow | 100 | 100 |
| Colo. (O. E. Adcock) | 50 | .07½ | 3.50 | .50 | 3.38 | .59 | .16 | Fair | 90 | 100 |
| Colo. (J. A. Green) | 10 | | | .55 | | .75 | | Fair | 100 | 100 |
| Conn. (A. Latham) | 33⅓ | | | 1.00 | 5.75 | 1.25 | .33 | Fair | 100 | 75 |
| Conn. (A. W. Yates) | 50 | .07½ | 4.00 | .85 | 6.50 | 1.25 | .35 | Fair | 100 | 75 |
| Fla. (C. C. Cook) | 50 | .05 | | .55 | | .65 | | Slow | 90 | 90 |
| Fla. (H. Hewitt) | 75 | | | .55 | | .75 | | Fair | 100 | 100 |
| Ga. (J. J. Wilder) | 45 | .08½ | | .75 | | 1.00 | | Fair | 100 | 100 |
| Ida. (J. E. Miller) | 25 | .05 | | .30 | 2.87 | .38 | .18 | Slow | 100 | 100 |
| Ill. (A. L. Kildow) | | .06 | 3.12 | .75 | 4.00 | | .20 | Slow | 100 | |
| Ind. (T. C. Johnson) | 90 | | | .75 | 3.60 | 1.00 | .20 | Fair | 90 | 75 |
| Ind. (E. S. Miller) | 30 | .08 | | .80 | 4.80 | 1.00 | .25 | Slow | 100 | 100 |
| Ind. (Jay Smith) | 25 | | | .80 | 4.80 | 1.00 | .25 | Slow | 125 | 100 |
| Iowa. (E. G. Brown) | 75 | .06 | 3.00 | .65 | 3.50 | .80 | .20 | Fair | 100 | 100 |
| Iowa. (F. Coverdale) | 20 | | | | | .90 | .18 | Fair | 120 | 80 |
| Kans. (J. F. Garner) | 40 | .08 | 3.75 | .70 | 4.80 | .90 | .25 | Fair | 100 | 100 |
| Kans. (J. A. Nininger) | 25 | | | .55 | 4.50 | .68 | .25 | Fair | 100 | 100 |
| Ky. (P. C. Ward) | 50 | | | .90 | | 1.15 | | Slow | 90 | 90 |
| La. (E. C. Davis) | 75 | .05¾ | | .60 | | .85 | | Fair | 100 | 100 |
| Me. (O. B. Griffin) | 45 | | | 1.25 | 6.75 | 1.60 | .35 | Fair | 100 | 100 |
| Md. (S. G. Crocker) | 75 | | | 1.00 | 5.00 | 1.50 | | Slow | 75 | 60 |
| Mich. (I. D. Bartlett) | 60 | .07½ | | .55 | | .75 | .25 | Fair | 85 | 90 |
| Mich. (F. Markham) | 25 | .08½ | | .65 | 4.00 | .85 | .20 | Fair | 100 | 40 |
| Mo. (J. H. Fisheck) | 2 | | | .80 | | 1.00 | | Slow | 100 | 80 |
| Mo. (J. M. Romberger) | 10 | | 4.00 | .75 | | | | Slow | 90 | 80 |
| Nev. (E. G. Norton) | | | | | | | | | 90 | 90 |
| Nev. (G. G. Schweis) | | | 2.87 | .45 | 3.38 | .70 | .23 | Fair | 100 | 100 |
| N. J. (E. G. Carr) | | | | | | 1.25 | .35 | Slow | 90 | |
| N. Y. (F. W. Lesser) | 50 | .08 | 4.25 | .65 | 4.80 | .75 | .25 | Fair | 100 | 100 |
| N. C. (C. S. Baumgarner) | 100 | | | 1.00 | | 1.25 | .30 | Fair | 100 | 100 |
| N. C. (C. L. Sams) | 50 | .09 | 3.75 | .90 | 4.00 | 1.00 | | Fair | 100 | 100 |
| N. D. (Chas. Engle) | 90 | .06 | 2.50 | .50 | 4.00 | .65 | .20 | Slow | 75 | 25 |
| Ohio. (R. D. Hiatt) | 80 | | | .75 | 4.90 | 1.00 | .27 | Slow | 95 | 60 |
| Ohio. (Fred Leininger) | 25 | .09 | 4.75 | .75 | 4.00 | 1.00 | .22 | Slow | 100 | 85 |
| Ohio. (J. F. Moore) | 60 | | | .75 | 4.00 | 1.00 | .25 | Slow | 80 | 60 |
| Okla. (Jos. Heneisen) | 90 | | | .80 | 3.00 | 1.25 | | Slow | 50 | 75 |
| Okla. (C. F. Stiles) | | | | .75 | 4.00 | 1.00 | | Fair | 85 | 90 |
| Ore. (H. A. Scullen) | 10 | | | .57½ | | .67½ | .25 | Slow | 100 | 100 |
| Pa. (Harry Beaver) | | | | .65 | 4.25 | 1.25 | .20 | Slow | 90 | 70 |
| Pa. (D. C. Gilham) | 40 | | | 1.00 | 6.00 | 1.35 | .35 | Fair | 95 | 90 |
| S. C. (E. S Prevost) | 99 | | | | | 1.00 | | Slow | 95 | |
| S. D. (L. A. Syverud) | 50 | | | .50 | 4.75 | .60 | | Fair | 100 | 100 |
| Tenn. (W. L. Walling) | 90 | | | 1.00 | | 1.25 | | Fair | 90 | 75 |
| Texas. (T. A. Bowden) | 90 | | | .55 | | .75 | | Fair | 70 | 70 |
| Texas. (J. N. Mayes) | 80 | .05¾ | | .30 | | .50 | | Fair | 90 | 90 |
| Texas. (H. B. Parks) | 90 | .06 | | .50 | | .65 | | Fair | 60 | 100 |
| Wash. (W. L. Cox) | | | | | | | | Fair | 100 | 105 |
| Wash. (G. W. B. Saxton) | | | | .45 | | .55 | | Fair | 100 | 100 |
| W. Va. (T. K. Massie) | 100 | | | 1.00 | 4.50 | 1.20 | .22 | Slow | 20 | 10 |
| Wis. (N. E. France) | 60 | | | .75 | 4.25 | .85 | .20 | Fair | 100 | 90 |
| Wis. (Jas. Gwin) | 50 | .07½ | | .60 | | .73 | | Fair | 100 | 68 |
| Wyo. (E. C. Reed) | 75 | .05½ | | .55 | | .70 | | Fair | 90 | 50 |

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# Gleanings in Bee Culture

December, 1930

## Our Cornerstone

**REMEMBER** at all times that improved bee culture is our end and aim, and we trust no one will hesitate to give any facts from experience because they may tend to overthrow any particular person or "hobby." If any of our special plans don't work, or if anything we advertise has had its value overestimated, here in these pages is the place of all others to set the error right.—From A. I. Root's "Introductory" in the first issue of Gleanings in Bee Culture, Jan. 1, 1873.

**Employment for the Unemployed** In Columbus, Ohio, a great army of unemployed was set to work recently selling apples on the main streets of the city. Only heads of families or those who were main supporters of families were given jobs in this movement. They were distributed over the main streets in the down-town district in accordance with the density of shoppers, averaging something like 20 feet apart over nearly two miles of street. The apples were sold at reasonable retail prices and the sellers received one-half of the proceeds. Of course, many car loads of apples were sold. Why does not some enterprising beekeeper try this method for selling honey? Surely a city could be made "honey conscious," as Dr. Barnard puts it, by a few days of such effort.

**Passing of Frank Rauchfuss** On November 19, death claimed Frank Rauchfuss, manager of the Colorado Honey Producers' Association, thus removing one of the most prominent men in western beekeeping. He died of pneumonia in his home in Denver after a brief illness.

Mr. Rauchfuss was born in Saxon, Germany, in 1860, came to this country in 1880 and located in Denver, Colo., in 1890. He was a charter member of the Colorado Honey Producers' Association, and was its secretary and manager from its beginning in 1899 to the time of his death. In the early days of the association he built up a market in the East for large quantities of Colorado comb honey by a carefully worked out system of grading and packing, together with sound business methods.

He was vice president of the American Honey Institute, a director of the American Honey Producers' League, and was keenly interested in every possible means of developing the beekeeping industry. He took a prominent part in discussions at beekeepers' meetings, always on the constructive side of any question. Not only has western beekeeping thus lost a great leader, but the industry as a whole will miss his constructive influence.

**Market for Peculiar Type of Honeydew Honey** In certain localities bees often gather a peculiar kind of honeydew honey which granulates in the combs soon after being placed in the cells, often before it is sealed. It is gathered from scrub pines in portions of Maryland and Pennsylvania, from the Douglas fir in British Columbia, and probably other sources. It has been found on the larch tree in France and occurs as manna on a leguminous tree in Persia and elsewhere.

Several years ago, scientists discovered that this quick-granulating honeydew contains considerable quantities of a rare kind of sugar called melezitose, and since large chemical concerns use this rare sugar, a market was found for limited quantities for making melezitose. Thus far, the demand for this peculiar honeydew honey is quite limited, but it is an outlet that should not be neglected, since chemists will, no doubt, find new uses for it in the future. The Digestive Ferments Company, 920 Henry Street, Detroit, Michigan, is interested in obtaining this type of honeydew honey. In order to help develop a market for it, we suggest that those who have even a small amount of this quick-granulating honeydew honey should write to the above mentioned firm or some other large chemical concern about it.

**Changes in Distribution of Honey** The demand for honey in carload lots has been so slow this season that many extensive producers are putting up their honey in pails and selling it locally at bargain prices rather than dump it upon an unwilling carload-lot market. For years, beekeepers of most of the eastern states have sold their entire output locally. In many localities, the local production is not sufficient for the local demand. Thus, but little eastern honey goes through the regular channels of trade.

However, in the West where population is sparse and large amounts of honey are produced, local selling direct to consumers or to retailers is necessarily limited. In spite of this, surprisingly large amounts of honey are being sold locally in western states this season. Apparently the consumption per capita in many western states is several times that of the more densely populated eastern states.

Honey in 60-pound cans and in 5-pound and 10-pound pails is sold at such low prices in many western localities that consumers are willing to use it in large quantities. At the same time, some producers are obtaining better prices for their honey in this way than if it were dumped on the present unwilling market at the prices buyers are willing to pay. Thus, temporarily at least, both producers and consumers benefit by this arrangement.

The unfortunate thing about it is that prices have to be made ridiculously low in order to induce the public to consume large quantities of honey. Perhaps in the long run some good may come out of this situation since many will no doubt acquire the honey-eating habit which habit is so badly needed in this country. Furthermore, this means that more and more honey is being sold in pails and 60-pound cans which practice is rapidly spreading eastward. Still another encouraging feature is that more and more eastern beekeepers are supplying their local demand throughout the year by purchasing western honey after their own crop has been sold.

**Statistics on Bees and Honey** The Bureau of Agricultural Economics, United States Department of Agriculture, has recently published some important statistics giving estimates of the number of colonies of bees in the various states, together with the average yields and total production of honey for the years 1928 and 1929.

The total estimated number of colonies for the United States was 5,085,400 in 1928 and 4,879,400 in 1929. The total estimated production of honey for the United States was 208,760,500 pounds in 1928 and 201,144,500 in 1929. According to these figures, the average yield per colony in 1928 was slightly above 41½ pounds, and in 1929 was slightly above 41 1-5 pounds. Thus, in spite of the greatly varying yields in the different states during the two seasons, the average for the entire United States was almost the same.

A study of the estimated yields in the various states during the two years is interesting. North Dakota stands at the top of the list for yield per colony, the estimated yield being 110 pounds per colony in 1928 and 132 pounds per colony in 1929. Montana is a close second with 125 pounds per colony in 1928 and 100 pounds per colony in 1929. In South Dakota, the estimated yield was 118 pounds in 1928 and 94 pounds in 1929. At the other extreme, estimated yields are as low as 10 pounds in some cases, and for Alabama in 1929 the average yield is given as zero.

For total production, the highest figure for any state in 1928 was that of 18,000,000 pounds in California, but in 1929, Illinois took the lead with 17,500,000 pounds. The figures for Iowa are exceptional for uniformity, the yield being 80 pounds per colony in both 1928 and 1929, the total production being estimated at 16,000,000 pounds in 1928 and the same in 1929.

The 1930 census figures on bees and honey have not as yet been released, but it is believed that they will fall far short of the above estimates, since many enumerators misunderstood the instructions and failed to ask people in villages, towns and cities if they had bees.

**Sowing Sweet Clover During Winter** One of the obstacles in the way of increased acreage of sweet clover is in the difficulty often experienced in securing a good stand. Since the new seeding is easily killed by freezing weather which may occur soon after the seeds germinate if sown too early, and in many cases by the soil becoming too dry if sowed too late, especially if the seeds are not well covered, spring seeding is often disappoint-

ing. Therefore, many farmers have gone back to nature's way of sowing sweet clover seed, that is, by sowing seed-in-the-hull during the winter.

The Ohio Experiment Station reports that good stands of sweet clover can be obtained by sowing the seed in late fall and winter months, provided seed-in-the-hull or unscarified seed is used. The freezing and thawing during the winter prepares the seed for germination at the proper time in the spring so that the young plants are not killed by freezing soon after germination, and the seed being well covered by freezing and thawing, there is less danger of the young plants being injured by a spell of dry weather later in the spring, or by too much competition when the seeding is done in wheat.

The Experiment Station reports that sweet clover seed-in-the-hull was successfully inoculated with cultures at all dates of seeding from October 1 until spring. Thus, by inoculating the seed with prepared cultures or by mixing with mud made from soil in which there is a thrifty growth of sweet clover, then drying the seed, and sowing during the winter, good stands should be obtained even in soil in which sweet clover has not been previously grown. Of course, liming the soil is necessary for best results when the soil is deficient in this respect. About 20 pounds of seed-in-the-hull is needed per acre.

In this connection, we again call attention to the desirability of sowing Hubam during the winter in localities where the clovers have been greatly injured by the drouth in order to provide pasture for the bees next summer. Since Hubam is an annual sweet clover, if sown during the winter or early spring, it will catch up with the biennial sweet clover that was sown last spring. In such localities, wherever a beekeeper can induce the farmers in his neighborhood to sow 25 or 30 acres of Hubam, there should be an abundance of nectar for a good crop of honey from 60 to 80 colonies, provided the weather is at all favorable during the blooming period.

**Besmirching the Fair Name of Honey**

In these days of keen competition, we, in this country, can not blame beekeepers in other countries, who have felt the competition of imported honey, for seeking ways of preventing such competition. However, some of the methods recently employed along this line are not only unfair, but they are also extremely dangerous to beekeeping everywhere. Degrading the fair name of honey, the heritage of centuries, is, to say the least, not conducive to the betterment of the beekeeping industry anywhere. Any local advantage thus obtained can only be temporary and the final results may be disastrous.

Several years ago propaganda was spread in Germany declaring that American honey was dirty and unfit for use as food. Later, shipments of American honey into Germany were refused on the ground that it had been heated sufficiently to destroy the diastase. Investigation in this country revealed the fact that American honey that has never been heated is deficient in diastase compared with honey from certain other sources, apparently because it is cleaner. Finally, the problem was solved by increasing the German tariff on honey from 4½ cents per pound net to 7 cents per pound gross, a much more sensible plan than those involving the degradation of honey.

Now comes France with a ruling by the French Minister of Agriculture, forbidding the importation of honey into France unless it is accompanied by a certificate certifying that the diseases known as foul brood, acarine disease, or nosema disease, have not been found in the particular locality in which the honey was produced for at least six months previous to the shipment. While the order may have been issued in good faith with the idea of protecting French beekeeping, it, nevertheless, throws an undeserved suspicion upon the wholesomeness of all honey in the minds of those who do not know the facts.

Since it is now known that commercial honey produced by modern methods is not an important means of spreading American foul brood, there is less reason for such regulations than was formerly supposed. The other diseases mentioned are diseases of adult bees, one being caused by a mite and the other by a protozoan, neither of which could live in honey. Wide publicity, usually distorted, has been given to all the items mentioned above. Beekeepers should be the last people on earth to ask for useless laws and regulations which can serve only to supply a flimsy basis for garbled newspaper stories and distorted gossip besmirching the fair name of honey—certainly one of the cleanest and most wholesome of all foods.

# A Sermon on Honey

Dr. E. F. Phillips

## Lack of Knowledge Regarding Honey Is a Great Handicap to the Industry

It seems desirable for a writer to keep his personal experiences and ideas out of his writings and to subordinate his personality, yet, with the consent of the editor and my readers, I shall depart from this plan and shall narrate some personal experiences.

According to tradition, anything called a sermon should have a text. There are so many biblical verses that might serve in this case that one does not know which to select. The much quoted advice of Solomon to his son might be appropriate, but a text once used by Huxley is perhaps equally good, "My people are destroyed for lack of knowledge," which is as true today as when written by the pessimistic Hosea. Any reader is at liberty to attach his own text, a privilege not often granted by the more orthodox clergy.

### Why Series of Articles on Honey Was Written

In the spring of 1928 I wrote the editor of Gleanings to complain that he did not include enough articles on honey. Similar opinions had previously been expressed, but in reply to earlier letters the editor had done little more than to agree with me. In this instance he reported that when articles on honey had appeared, it often happened that readers wrote in to complain that such material has no place in a bee journal and that the articles were too technical for a beekeeper to understand. It seemed incredible that a beekeeper should object to an effort to add to his information about his product or that any one should think that facts about honey do not belong in a bee journal. The situation called for study.

Files of two journals were examined and the articles on honey were re-read, to see if possible what ground there might be for complaint. With no intent to criticize those who wrote these articles, it can be said that some of the articles were excellent and some not so good, but two faults were discoverable. Technical terms were sometimes used without definition and sometimes technical terms were used when plain English would have served the purpose. There also seems to be rather too much chemistry and not enough biology, which may be purely a personal impression. While there seemed to be nothing in these articles fully to justify complaints, still there is a slight excuse for them.

The next step was to circumscribe the kind of information about honey which may legitimately be expected of a beekeeper, assuming common sense, a desire to learn about the product and a willingness to do some studying. With this in mind, 25 questions were prepared as suitable to ask such a beekeeper. Some of these questions could not have been answered fully short of a book, but complete answers were not expected. For example, one question was, "What is dextrose?" Only a sugar chemist can answer this well, yet every beekeeper has seen this sugar in pure form many times and should be able to say something about it which would indicate that he knows its nature and value. This is especially true after all the discussion of corn sugar legislation. It was assumed only that the beekeeper would be able to make an intelligent reply to the questions.

Continuing the correspondence with the editor, I sent him these questions, specifying that they were sent him as a beekeeper and not as editor. He was asked to cross off any questions that seemed to him too technical and to add such questions as seemed to him proper to ask of an informed beekeeper. He crossed off none of my questions but added nine others, and all of us here felt that his questions were more technical than mine. One of the added nine resembled one of the original questions, yet was somewhat different. Still to use both would have bordered on a trick question, so his was removed, leaving thirty-three questions. The editor asked that I put these questions in form so that he could run them in the July (1928) issue then about to go to press. This was the first of a long series of articles on honey.

The editor knows that I do not favor departments in our journals, so he then asked me to take a "corner" in Gleanings, to answer one or more of these questions each month until all were answered. In sending in these questions, I stated that answers were not to be sent to the editor or to me, that answers would not be published and that the questions were presented only as a means by which the read-

er could check his knowledge of honey. I thought, perhaps hoped, that there might be readers who would so desire answers that they would ask for them in spite of these statements, and I suspected that there were enough such persons who knew the editor or me well enough to demand anything they wished.

I declined the proffered "corner," but agreed to write an article for the August issue and perhaps one for September, giving time for requests for answers to the questions or comments of some kind. I agreed to write these articles in a belief that it should be possible to write about honey without using too many technical terms and in such a way as to be helpful and interesting. The fact that some who had written on honey had been criticized perhaps led me to wish to see what I could do in this field, but I insisted that I would not write more than two articles.

### No Response to Early Articles

After the August and September articles had been published, neither the editor nor I had any comments and no requests for answers to the questions. The same thing happened after the October article which the editor persuaded me to write. When it came time for a copy for the November issue, the editor again requested an article, but I wrote back that I had with regret come to feel that most beekeepers do not desire information about honey. I disavow any fishing for compliments and would have been pleased if somebody had written to criticize the articles, thereby indicating interest. The editor's reply was significant, for he said that so far nobody had condemned my articles, which he interpreted as a compliment! To what degree his interpretation was true, my readers can decide, but I thought it rather backhanded.

I allowed myself to be persuaded to go ahead, and about this time Mr. Crane had something to say about my articles in his department, and he was a much valued source of a compliment. The articles were interrupted in the December, 1928, issue, but otherwise continued from July, 1928, to March, 1930. As time went on I began to receive letters from beekeepers, usually saying nothing specific about the articles but asking for more information than had appeared so far. Finally it began to look as if some beekeepers are interested in honey. The articles were not intended to create a revolution in American beekeeping but were written in the hope that an interest in honey might be stimulated. Beekeepers abroad have shown, or have expressed, more interest in these articles than have Americans, and the articles have appeared as translations in France, Switzerland, Italy, Spain, Sweden and Russia.

I hope that this narrative of personal experiences will be pardoned, and it is here recorded only because of the fact that we have heretofore paid too little attention to honey and relatively too much attention to bees. I am glad that a series of articles of mine have appeared without causing too many persons to discontinue their subscriptions to Gleanings, or at least I have heard of none so far. This is the end of the series, so there is no need of discontinuing now.

Our only excuse for expecting anybody to buy honey is because it is as good or better than the manufactured substitutes. Unless we know that it is better, we must admit that the uniform appearing manufactured products have points of advantage over honey. We have no valid reason for objecting if a consumer buys these substitutes unless we provide means whereby he can learn in what ways and for what reasons honey is the best sweet. If the consumer is to be educated to the virtues of honey, somebody must tell him, for we can not expect consumers to take much trouble to learn these things for themselves, and they are constantly instructed that the substitutes are best.

### A Great Advertising Agency

There are in this country several hundred thousand people who produce some honey, most of them not being extensively engaged in honey production. If these beekeepers themselves knew, or if only a small per cent of them knew, why honey is better than other sweets, we should have for honey a great army of boosters which no advertising campaign could equal in efficiency. An enthusiastic beekeeper constantly talks about bees to his friends, and if he knew as much about honey as he knows about bees, he could and would talk equally well about it. There might then be less trouble in selling the honey crop.

When one gives a talk about honey to a luncheon club, a school or to any other group of people, almost always a few honey eaters are created. The story that can be told about honey with complete truthfulness is irresistible.

### Delegating Promotion to Others

Statements like those in the last three paragraphs have been made to a considerable number of beekeepers, and frequently the reply has been made that the beekeeper is a honey producer, not a talker, salesman, writer or public speaker. It can scarcely be denied that most beekeepers are good talkers in conversation and that they have weak terminal facilities. There is a common belief that the beekeeper must leave the task of informing the public about the merits of honey to somebody else, the firms that bottle honey, salesmen, some advertising agency or to somebody or some organization other than the beekeepers themselves. So insistent have beekeepers been in this belief that at least three advertising campaigns have been projected, not with gratifying results. We have also seen the formation of the American Honey Institute, an attempt to delegate the education of the consumers and users of honey to somebody other than the beekeeper. If the beekeepers united to pay the bills for these agencies, there would be no objection, but the bills are not paid by the rank and file of beekeepers. Under such conditions it appears that there is still something for the beekeeper to do, or the task will not be done properly.

There is, of course, not the slightest objection to enlisting all the help that can be found or created in this good cause. The American Honey Institute, the advertising help of the W. K. Kellogg Company, the advertising of the bottling firms and all other agencies which aid in carrying the story of honey to users and consumers of honey are more than welcome. Still it appears that the producers are missing an opportunity if they sit back and leave all the work of promoting the use of honey to others.

### Study of Honey Worth While

There is another reason for studying honey which may be mentioned, especially in a story called a sermon. Honey is so interesting and worthy of study that it is worthy of our attention, even if nothing were to be gained commercially thereby. We all need intellectual recreation and can not be properly considered as satisfied if we devote our hours of relaxation to touring, the radio, and the movies—common methods for killing time—our greatest boon. To spend an evening in real study of honey is worth while, for the wonders of its origin, the co-operation of the bees and flowers in providing it for us and the wonders of its composition and properties are as good as a novel. Unfortunately we do not have any good book on honey for American beekeepers, but there are sources of information that are reliable and easily found.

I hope that there will hereafter be many more articles on honey, for the story is not half told and will even bear repeating. It is equally to be hoped that the future articles will avoid too many technical terms which might frighten readers, but that they will present the story truthfully and fully, as well as interestingly. We need such articles often and continuously. They should be the most interesting and almost the most practical that appear in the journals.

### Important Lesson to be Learned

No tale such as this should be permitted to go out without a moral attached, if one can be found, and in this case the moral seems too clear to make it necessary to write it. The time has surely come when we dare not delegate entirely to others the task of educating the public to the merits of honey. We should do everything possible to foster the use of honey through whatever agencies can be set up to do part of the beekeepers' work; we should support these agencies with influence, advice, and funds if possible, but at the same time if we sit back and fail to do our share, part of the work will remain undone. All of us can talk about honey to our friends and can back up our talk with facts, some can write about honey, others can speak to large or small audiences about it, and all must do something to help. We can not expect the consumer to hunt out the facts which will induce him to join the fortunate number who habitually eat honey.

We should advocate no propaganda for the promotion of honey, using that word in its usual significance. The telling of partial truths for the sake of developing a "selling point," is often plain lying, and honey is too good a material to have it insulted with statements of the kind often used to sell the food substitutes. We want nothing that will cause people to buy honey without thinking, but if we can get them to think about it, sales will be easy enough. The salvation of the beekeeping industry rests on putting on the market a high quality honey, then in educating the public to use it by insistent telling of the truthful story. Ithaca, N. Y.

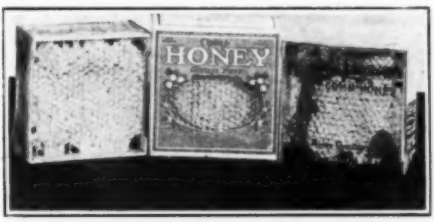
# Packaging Comb Honey

J. A. Munro

## Bringing Comb Honey Up to Date Among the Package Foods of Today

Quoting the great poet Tennyson, "The old order changeth yielding place to new" may aptly be applied to the packaging of quality foods such as comb honey. With the introduction of the wooden section years ago began the first uniform type of package. This package protected all but two sides of the comb and may be regarded as the forerunner of present day packaging. For the most part the modern package protects all sides of the comb and should present a neat, sanitary appearance to the contents.

A visit to the stores in almost any community where honey is sold will show that there is a certain lack of uniformity in the packages used. Comb honey may be seen displayed in any one of a variety of packages, including the cellophane wrapper, the cardboard carton with or without a transparent front, wrapping paper, or simply the wooden section which holds the comb.




**Section of honey at left in plain cellophane wrapper; middle, in a window carton; right, in printed cellophane wrapper.**

With the keen competition nowadays among foods and the need for the producer to attract the attention of the consumer, it naturally behooves the beekeeper to display the product of his apiary in the best way if he wishes to hold his place among his competitors. In choosing a package for comb honey, the beekeeper is confronted with a few important items, including cost, serviceability, convenience of using, and attractiveness. If the package is attractive and the contents of good quality, it will readily appeal to the consumer.

Grocers will tell you that a quality article of food, such as comb honey, must be seen to be appreciated, and yet it must be inclosed in a sanitary package which will protect it against dust or any other contaminating influence while on display. For years the producer of comb honey was able to partly fulfill these requirements, but it was not until recently, with the introduction of cellophane, that the problem was practically solved.

### A Package of Crystal Clearness

Although cellophane has been introduced only within recent years, it is rapidly gaining in popularity with all parties concerned and it bids well to become the standard type of package for comb honey.

Considering the various points in which cellophane excels other types of packages, it may be said that cellophane is much lower in cost than its main competitor, the cardboard carton. Upon talking this over with Mr. M. W. Cousineau, local dealer who has occasion to prepare a large quantity of comb honey for the market each year, he pointed out that the use of cellophane represents a real saving.

He finds that he can buy a good quality of plain cellophane, cut to the proper size by the manufacturer, for $7.00 per one thousand sheets, whereas the same number of cardboard cartons would cost him about $12.50. A lighter grade of cellophane may be had for $5.00 per thousand but he considers this grade unsatisfactory for use in packaging comb honey.

Although Mr. Cousineau is highly in favor of the cellophane package now, he admitted that he was a little disappointed in results at the start. At first, he found that wrapping was rather slow and tedious work. He also had difficulty in sealing the package. After trying various substances, including mucilage, paste, glue, and water, to fasten the edges of the cellophane, he found that water alone served the purpose most satisfactorily. For a while he used a heated electric iron to facilitate the sealing of the package, but he found later that it was not needed in the work, so he dispensed with it.

After a comparatively brief experience with cellophane, Mr. Cousineau found that he was packaging the comb honey about as fast as he wished and he no longer considers it a tiresome job.

### Serviceability of Cellophane

Cellophane, due to its toughness and transparency, may be regarded as serviceable in every way. As a package, it gives

the necessary protection and readily displays the contents. Its crystal clearness depicts to the buyer a correct picture of the comb within. What could be more attractive, or how else could the honey be packaged to find more ready appeal to the customer?

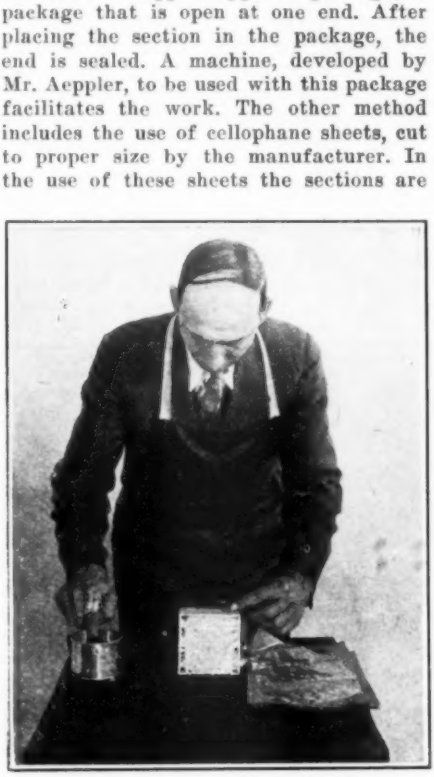
Cellophane wrapper in place ready to seal.

To find out a little more about this subject, particularly the storekeepers' attitude, the writer visited several of the local merchants who endeavor to keep a steady supply of honey in stock to supply their customers. The various grocers with whom I discussed the matter were all in favor of cellophane over any other form of package. The consensus of opinion among them seemed to be that this type of package was most desirable from the grocers' standpoint, in that the honey was continually on display, was protected against dust, and was fairly immune to injury caused by ordinary handling either by the grocer or the purchaser. Furthermore, if a leaky section were enclosed in cellophane the liquid honey would not escape to damage other articles coming in contact with it. This much can not be said for the cardboard carton or the usual type of paper wrapper.

Comb-honey producers have told me that they receive more favorable consideration from buyers and usually a premium price for cellophane wrapped honey and that this is a real advantage considering that the cellophane is comparatively inexpensive and so convenient to use.

### Different Methods of Wrapping

Any producer of comb honey who has not had occasion to use cellophane would probably be interested in at least giving the method a trial. There are at least two methods in common use. One includes the use of the Aeppler type of package; a package that is open at one end. After placing the section in the package, the end is sealed. A machine, developed by Mr. Aeppler, to be used with this package facilitates the work. The other method includes the use of cellophane sheets, cut to proper size by the manufacturer. In the use of these sheets the sections are



By dipping the finger into water, then moistening the cellophane, it is ready to seal.

wrapped very much the same as butter is wrapped with paper, except that with cellophane it is not supposed to overlap the edges more than is required for proper sealing.

Although there is a fairly definite procedure involved in packaging honey in this way, the method is fairly simple. A good work table with adequate space is desirable. Place the sections to be wrapped within convenient reach of the operator who may be seated at the table. Water should be at hand because this will be needed to moisten the edges of the cellophane wrappers. A box to hold the

packaged sections should be placed conveniently on the table. After things are properly arranged the operator should place a sheet of cellophane flat on the table directly in front of him. Set the section of honey, wood side on the center of the sheet, and draw the edges up so that they overlap at the top, moisten with water and run the finger over the overlapping portion as this will help it to seal. After this is done, turn the section over so that the sealed portion rests on the table, and fold in the ends. The ends may then be moistened and with slight pressure of the hands, which completes the sealing, the package may then be placed in the box. When the box is filled the cover should be tacked on.

The length of time required for wrapping and sealing sections in this way depends on the experience of the operator and the speed acquired. One beekeeper told me not long ago that he could package his comb honey with cellophane wrappers at the rate of forty sections per hour. As this man only started to use cellophane during the past season, he expressed the opinion that with more experience he could increase this output.*

A word of caution might be made in regard to using cellophane wrappers. When starting in to use this method it might be well to begin with small amounts of the various grades or weights on the market. Probably you will find one grade better suited for your purpose than another. It may be that you will find some difference in the sealing qualities of one grade as compared with another.

Occasionally a cellophane wrapped section will become unsealed for no apparent reason. This feature was brought to my attention not long ago when a case of cellophane wrapped sections was brought into a warm room and opened. The packages were lifted out and set on a table and in the course of half an hour three of the wrappers became partially unsealed, apparently of their own accord. In the several hours which followed before the packages were again placed back in the box no further unsealing was noticed.

**The water seal holds the cellophane in place, thus making a completely sealed package.**

So far as can be ascertained, water is the most satisfactory and commonly used medium for sealing cellophane-wrapped sections of honey. The writer has successfully used stickers for this purpose. The stickers are rather convenient to use but unless they serve some other purpose, than to hold the edges of the wrapper together, they would not be of any advantage over using water. In case the sticker carries the name and address of the beekeeper or other printed matter of value then it might be a good plan to place the stickers on the packages.

Fargo, North Dakota.

*In wrapping comb honey in a commercial way in The A. I. Root Company's honey room, each girl wraps 72 sections per hour.—Editor.

# Evolution of Package-Bee Business

**E. R. Root**

*The Story of a Great and Rapidly Growing Branch of Beekeeping*

"Great oaks from little acorns grow," has been exemplified no more strongly than in the marvelous development of the package bee business in the United States during the last few years. Little did A. I. Root, the founder and first editor of this journal, realize that he had "started something" when, over 50 years ago, he introduced the then novel, not to say "fool idea," of shipping little swarms

without combs clear across the country. "Impossible, can't be done," it was said. But he did do it as recorded in the back volumes of Gleanings from 1878 to 1885, when he showed his first cage for a pound of bees and described the method of shipping.

In the same way his hobby of selling a "queen for a dollar" was considered little short of crazy. When he annonnced that he was going to sell a bee hive for a dollar, too, he had gone "plumb insane," and "what next?" they asked.

Dollar queens, or even less, apparently have come to stay, but the "dollar hive" is a myth of forgotten days when good hive lumber could be had for $8.00 per thousand feet as against lumber today, none too good, at $40.00 per thousand feet. Labor then was $1.25 for ten hours contrasted with the same labor today at $4.00 and $5.00 for eight hours.

### Experiments with Different Kinds of Food

But the thing I want to write about now is the amazing growth of the package-bee business. Shortly after A. I. Root started the project of shipping swarms without combs in wire cages, the business of shipping bees in that form almost died out. There was a wagging of heads, "I told you so," but A. I. Root as usual paid little heed. He occasionally got the bees through alive and he argued if he "could do it once" he "could do it again." He tried sending the bees on syrup, but it would feed too fast and all but drown the bees. Then he tried hard candy, but it was too hard and the bees starved. Then he tried soft candy, but it was too soft and stuck the bees up. If he could "only get the candy right" the thing would be a success; but most of the time the shipments "went through dead." Again he heard the echo "I told you so."

Next he tried candy and a water bottle. The water leaked out, smeared the candy to a sticky mess and again the bees "went through dead." Again the refrain "It can't be done."

Always A. I. Root would refund the money or try again. When the customer would agree to it he sent more bees until he got them through alive. He almost hit the right scheme. He did in fact make a syrup container like those of today, but he didn't get the syrup right.

### The Nucleus Method of Shipping Bees

About that time his health failed. I came out of school to take the job in 1886. I came to the conclusion in 1892 that the only way to ship small lots of bees was on combs, and so from 1892 to 1910 we shipped successfully all small lots of bees on combs of honey and brood in a light shipping box. Every one else was doing the same and with good success.

About that time American foul brood began to assume proportions that were alarming. The state bee inspectors complained that this disease was being scattered all over the country in localities that had hitherto been free from it. In many cases they blamed this upon the shipments of nuclei.

### Shippers Return to Combless Packages

In 1911 I began to try out again combless packages. At that time, the science of making a soft candy had reached a higher state of perfection and the shipments began to go through in much better condition. Among the early successful shippers on candy were W. D. Achord, J. M. Cutts and M. C. Berry, all near Montgomery, Alabama. Finally in 1922 so many quarantines against bees on combs had been established that we decided to stop shipping bees on combs either in nuclei or in full colonies and so announced in the 1923 catalog. This received the hearty approval of all state bee inspectors. Since that time shipping bees on combs has been growing less and less.

### Syrup for Package Bees

In the mean time the business of shipping bees in wire cages had grown to enormous proportions; but there were too many losses in transit. The candy was often either too soft or too hard. Finally it was discovered that the principle that A. I. Root had worked on in 1880, of a tin receptacle with a small hole for the exit of syrup, would get the bees through in good condition. Almost over night most of the package shippers adopted, in place of candy, the syrup can filled with a half-and-half syrup—that is sugar and water of equal proportions. The can suspended from the top of the cage had a single hole in the bottom but in most cases two small holes for two-pound packages and three holes for three-pound packages.

In our next issue I will tell how the package-bee business is hooking up to the orchard business, for some of the leading apple men are discovering that package bees delivered in time means increased crops.

# Beekeeping in Alaska

H. W. Alberts
Director of Alaska Agricultural Experiment Stations

## Hundreds of Square Miles of Honey Plants and But Few Bees to Gather the Nectar

Honeybees in Alaska are handled entirely by amateurs, of which there are only three in the entire territory. Bees are kept also at the Federal Agricultural Experiment Station at Matanuska. In spite of the many obstacles these beekeepers are required to meet, they are producing honey for home use, but not in sufficient quantity for the market.

Short seasons, rainy and cloudy weather during the latter part of the honey flow reduce the yield. There is no dearth of nectar-producing plants, and during a short period when the days are long, the bees gather an amazingly large amount of nectar.

Our amateur beekeepers live in southern Alaska. J. N. McCain lives on his farm three miles south of Anchorage, a town on the Alaska Railroad about 100 miles north of the southern coast. A number of years ago, he noted the abundance of wild flowers and wild bees. While he had no previous experience with honeybees, he bought a colony in the spring of 1924, but lost it the following winter. In the spring of 1925 he bought two colonies and these increased during the summer. In the spring of 1926 he had four colonies, and in the spring of 1927 he had seven colonies.

### Methods of Wintering

In 1924-1925 he wintered the colony out of doors. The entrance of the hive closed accidentally and the bees were dead in spring. In 1925-1926 the bees were wintered in an unheated log building. This was damp and some colonies died. In 1926-1927, two colonies were wintered out of doors and the remainder in the log building. He lost half of the colonies at each place and had a total of seven colonies left in the spring of 1927. He finds that all the losses could have been prevented. The hives containing the colonies that were wintered outside were packed in boxes so that the hives could be surrounded by four inches of dry sawdust. Dry moss may be used instead of sawdust.

Wintering out of doors was found to be advantageous in this climate because the bees get both early and late flights. The late flights are in October and the early flights in April. The entrances to the hives were 4 inches in length and ⅜ of an inch in height. If bees are wintered inside of an unheated building an empty super or half super filled with dry moss should be placed immediately over the frames to keep out the dampness.

### Succession of Honey Plants During Summer

The bees begin to work for pollen on willow and other plants during the month of May. In June other plants are in blossom and sufficient pollen and nectar are gathered to build up strong colonies. The period of greatest honey flow extends from the first week in July until the middle of August. During this time, nectar is gathered from hundreds of square miles of fireweed. Other honey plants are blueberry, wild currant, wild raspberry and alsike clover. Various kinds of honey plants are in blossom all summer and sometimes continue as late as October.

Apiary of J. N. McCain, Anchorage, Alaska. This is beyond 61° north latitude.

The early summer weather conditions for honeybees are ideal. The days are clear from the early summer until the latter part of August when the rainy season begins. There is usually no rain between July 10 and August 15. Honey plants do not suffer from drought during this period because the moisture in the ground is plentiful, and, while the days are warm, the rate of evaporation is comparatively low. During the period of

greatest honey flow the days are about 20 hours in length, and strong twilight is continuous throughout the night.

T. D. Paige lives at Haines in southeastern Alaska, about 800 miles from Anchorage. He bought one colony of bees from a beekeeper in the states in the spring of 1924. He has kept bees continuously since he obtained his first colony. In the fall of 1927, he had four colonies, but only one colony survived the winter. Stores were plentiful. The cause of the death of the bees seemed to be due to dampness in the hives, which were kept in an open shed. In the fall of 1929 he had five colonies.

F. A. Cooper at Wrangell purchased a colony of bees in the spring of 1929, primarily for the purpose of pollinating fruit trees. This colony produced one new swarm of bees and yielded 210 pounds of honey. He expects to increase the number of colonies by purchasing additional bees from the States.

**Bees Established in Experiment Station**

In the spring of 1927, the Federal Experiment Station purchased Italian honeybees from J. E. Wing, Cottonwood, California. The shipment consisted of two 3-pound packages and two 3-frame nuclei. The package bees were fed while en route from an inverted container and withstood the trip from Cottonwood, California, to Matanuska, Alaska, in excellent manner. The bees were en route 10 days. Owing to lack of help at the station, no attempt has been made to increase the number of colonies. They are wintered in a cool, but dry basement, and no serious losses of colonies have been experienced. Information obtained up to this time indicates that bees can be kept profitably in this region.

**Other Attempts Not Successful**

Several attempts have been made at beekeeping at Sitka but without success. It is reported that many years ago a Russian priest brought several colonies of bees to this region of southeastern Alaska, but due to the almost continuous cloudy and rainy weather, his attempt at beekeeping failed.

The Federal Experiment Station at Sitka purchased two colonies of bees in 1905 through the U. S. Bureau of Entomology from a beekeeper in the state of Washington. The colonies were strong when they arrived in June, but failed to gather sufficient stores for the following winter. They were kept in a frost-proof cellar and were fed, but did not survive the winter.

Certain regions in Alaska, especially the Anchorage and Matanuska districts, appear to be adapted to beekeeping. At the present time, there are only a few persons who have had any experience with bees, and the pioneer settlers have no adequate quarters for wintering the colonies. As soon as beekeepers, who have had experience in handling bees settle in the region, honey will undoubtedly be produced for the market.

Sitka, Alaska.

# Honey Throughout the Ages

Penn G. Snyder

## Premier Sweet Takes Secondary Place on Advent of Cheap Sugar

We beekeepers should be proud of our work, and proud of its results. It is questionable if any other one industry of man is older, has had more written about it, or has had more scientific investigation by the best minds of past times and ages.

When we take into consideration the work accomplished by the little insects, the river of honey they cause to flow into the markets and homes of the peoples of the world, and the billions and billions of blossoms they fertilize every year, the beekeepers of the world should not fear to stand forth as representing one of the important industries of modern times.

The origin of our honeybees (*Apis mellifica*) goes back far beyond any written history so far discovered. It is supposed they were not native to Europe and most of the remainder of the world where the ancient peoples of history found them. It is probable they reached their new homes as immigrants from Asia.

No nation on earth has had so many historians as our little humble hive bees. According to Cicero, Aristomachus spent sixty years in studying them. Many learned societies have been established for the purpose of conducting researches and in-

vestigations of their life and history. We of our day are still learning and studying them, and the last word to be said of them lies far in the dim and distant future.

**Importance of Honey in Ancient Times**

The people of the present day have forgotten what a prominent place honey had among the ancient people and even in early modern times. From the earliest times of written history in most if not all, ancient writings so far discovered, bees and honey have some mention. Honey was used as a gift from the gods for the maintenance of health and strength, and as a remedy in case of sickness; also as a part of religious practice, and often as a gift or sacrifice to the gods of that day. Frequently honey and wax were part of the annual tax or tribute paid by a conquered people to their conquerors.

Honey was probably the only sweet known to the ancients, and no doubt they were just as fond of it as we moderns, but were not so fortunate as to be able to satisfy their appetite for it as we can. The Greek peoples used honey and water as a libation to their dead. The old Egyptians used honey extensively. It was not only used in their cakes and sweetmeats, but it was also used in some of their forms of embalming the dead of which they had many. Sealed jars of honey have been found interred with the embalmed bodies of their loved ones.

Many ancient writings speak of the value of honey as a food for children. (And we think this is a modern discovery!) The heathen in their religious ceremonies frequently used honey. At that and later times the Jews were a notable exception to this almost general rule. The Nordic races well knew the value of honey as a food and medicine; among them the first food given a new born infant was honey smeared in its mouth. This had a religious significance also.

Ancient writers of India mention eight kinds or classes of honey for medicinal use. The Hindoos use honey in their religious ceremonies, they also place a little honey in the mouth of the new-born male babies. Some peoples of India still use a mixture of honey and milk as a respectful offering to an honored guest. Another odd custom is to present a little honey to a bridegroom on his arrival at the door of the bride's father. Perhaps this was the start of the honeymoon.

All the followers of Mahomet use honey as a medicine as well as a food. Their bible, the Koran, speaks of honey as being a natural medicine for man. The greatest book in the world of the Christian peoples, the Bible, speaks of honey directly no less than thirty times, and besides these there are many references as well.

One of the old sayings of the early Britons was, "Where is the best honey, there is also the best wool." Which is evidence that they knew that pasture land or untilled soil was the best for both the bees and the sheep. The Saxon mead was one of the best known beverages of ye olden times and this was made principally from honey.

When the early Spanish Conquistadors reached Peru they found the heathen Peruvians making a sacrifice of honey as a gift offering to the sun. They, like many peoples the world over, were sun worshippers. However, this honey was not produced by our *Apis mellifica* but by the stingless bee of the tropical Americas.

In their festivals the people of Madagascar use a mixture of honey and rice. They also have a so-called sacred water which is used when blessing children and in other religious rites. In Arabia a favorite dish is made of cream or fresh butter mixed with honey and eaten with or without bread.

It is said that wild bees are still plentiful in Palestine, especially in Judea. They are found in hollow crevices and, like in our own country, in hollow trees and stumps. Honey and wax was at one time the chief export of the island of Corsica, the birthplace of the great Napoleon.

Laws pertaining to the ownership of swarms of bees come down to us from England's earliest days. The Nordic peoples, from whom England's bee laws were probably obtained, understood the lining of bees to their tree home, and gave the discoverer the right to mark the tree, and later to cut it as his personal property, even if the land on which the tree grew belonged to another. Such laws covering the finding and ownership of the honey of the wild bees are pretty much the same even today in the New England states.

Many races have used and still use honey as a basis of a beverage for general, holiday or religious use. The Romans made a drink by boiling honey, wine and water together. Russian farmers make a

drink from the honey of the linden trees which is much esteemed by them. The ancient Abyssinian people used a mead made from honey, which custom has been handed down in that country to the present time. The Abyssinians are slow to change their customs as the past few years have shown their rulers.

**Introduction of Sugar into Europe**

When the crusaders were returning to Europe, they frequently carried home with them a small amount of sugar which they obtained from the Saracens and the people from the warmer climes of the South. Up to this time, honey was about the only sweet obtainable among the northern peoples of that day.

The use of honey as the principal and almost the only sweet held its own among the northern races until the latter part of the sixteenth century. About the time of Queen Elizabeth of England, the sugar imported from the warmer climes became its rival probably because it could be sold cheaper than honey.

In the last couple of centuries, and this mostly in the cities, honey has taken an undeserved secondary place with the peoples of northern civilization. Especially is this true in the United States. During the past fifty years sugar and other sweets have been widely advertised and are constantly being brought before the buying public.

However, honey seems to be slowly coming into its own again with the attention the doctors and the dietitians are giving it. We beekeepers are frequently too modest; we, who have the best sweet of them all, should not be afraid to say so at any time or place and to keep on saying it.

In parts of the world where modern civilization and modern trade for one reason or another have not arrived, honey still holds its place as the best and often the only sweet obtainable by the natives to their benefit from a standpoint of health.

So it is up to beekeepers to remove "their light from under the bushel" and let the world know what honey is and how fine it is. This will take work, and plenty of it. However, beekeepers as a class are not afraid of work or they would not be beekeepers. So it is up to us to work, and talk bees, and get all the publicity that it is possible to obtain.

Dayton, Ohio.

# Fundamental Facts in Wintering

Prof. H. F. Wilson

*Combination of Factors That Result in Good Wintering Regardless of Other Conditions*

There are numerous articles running in the bee journals about different types of packing cases, the amount of packing to use, and how long the packing should remain on the bees. There are many beekeepers today who have little or no trouble with the wintering problem; and if a few beekeepers can be continually successful, there is no reason why the remainder should not do equally as well, if they will only follow out the fundamental facts that are now available.

An important question which seems to concern many of our beekeepers today is the ease with which they can successfully carry the bees over winter at a minimum cost for winter protection. The fundamental facts are that when bees have an adequate amount of pure stores they can winter over under almost any condition. Even those colonies without protection are able to winter successfully, although it is known that they use considerably more stores than those that are not protected.

It seems to me that there is little or no question about the winter period, and that the important period which needs to be studied at the present time is that from April first until the beginning of the honey flow. Although bees may be wintered successfully without winter protection, there is no question but that winter protection is desirable and will conserve the strength of the bees and reduce the amount of stores necessary to carry the colonies through the winter. Practical experience as well as scientific investigations show that the amount of protection is not nearly of as much importance as the stores.

**Difficulties in Measuring Value of Different Degrees of Protection**

Reports of successful wintering are continually received from beekeepers with all the way from two inches to ten inches of packing, but there is no way of telling just how much insulation value was actually given. Some may wrap their hives

in newspapers before they put on the packing. Every packing material has a different insulation value. The condition of the insulation material also makes a very appreciable difference. Packing material may be reported as being dry, but just how dry was it? How much moisture did it actually contain? Was the packing material sufficiently protected so that it would not absorb any moisture during the winter period?

Placing the bees behind an adequate windbreak appears to me to be one of the most important factors for successful wintering. It is a well established fact that colonies of bees covered with snow and ice winter very successfully. Without question this is due to the fact that the bees are not subjected to the strong winter winds which would otherwise create currents of air about the hives, thereby drawing the heat away from them and from the cluster. While it is not safe to compare bees with higher animals, I believe that the simple illustration of one's standing behind a building or the duck hunter, his blind, is adequate. The duck blind may afford no protection whatever from the standpoint of cold, but, with a strong wind blowing, if the hunter sits below the top of the blind, his clothing retains the body heat so that he may be reasonably comfortable, while the minute he stands in the wind he becomes chilled and begins to suffer from the cold.

We have thousands of examples every year of the small beekeeper who keeps his bees in a darkened room in the basement, and as long as these bees do not have dysentery they winter successfully. But when dysentery is present, the winter losses are terrific, and, without understanding the actual cause, the beekeeper comes to the conclusion that his winter cellar did not have proper ventilation or that it was either too warm or too cold. There are several beekeepers in Wisconsin who winter their bees successfully year after year, without ever having taken any great precaution to provide up-to-date cellars or packing cases, while other beekeepers in their vicinities have variable losses from year to year. The factor of success in these cases, I think, is due to the regular practice which these beekeepers follow in providing the bees with sugar stores in the fall.

### Behavior of Bees During Winter

The recorded history of the bee colony in the winter shows that when the temperature reaches a certain low point, the bees form a cluster, and this cluster contracts and expands directly in relation to changes in temperature. As the temperature rises the cluster expands, and when it reaches in the neighborhood of 65° F. the cluster is broken. Experimental evidence indicates quite clearly that the heat of the cluster is provided by the action of the bees within the cluster. In order to produce heat, it is necessary that the bees feed. If the stores are free of detrimental substances, commonly called gums and dextrins, the bees seem to be able to digest any amount of stores without any serious effect other than that of decreasing the energy unit, which seems to be important only when the bees that have gone into winter quarters are old and have used up their vitality the previous fall. If the bees are young and have their complete vitality at the beginning of the winter period, they have sufficient strength to carry them on through the necessary period of building up the strength of the colony in the spring.

### Foundation for Good Wintering

A good colony of young bees, with an abundance of pure stores, whether it be honey or sugar syrup, is the most important requirement for successful wintering. The packing material may be of all sorts, but the hive itself must be dry and so provided that the bees which die off in the winter will not clog the entrance. As for the material for the covering, it may be boards, building paper, or even good, tight canvass providing the packing material is one that will not absorb moisture so that it readily passes through the packing material to the hive.

### The Spring Brood-rearing Period

The important period that now needs investigation is the brood-rearing period in the spring, and this is the period in which too much packing appears to be detrimental; it seems to hold the bees back in their normal brood-rearing. But we should be very careful in coming to any definite conclusion on this point, for it is entirely possible that certain conditions and manipulations within the hive will demonstrate that colonies can build up better with the heavy packing than otherwise. However, it is quite evident that many colonies left unprotected during the spring brood-rearing period, do build up better and produce larger crops of honey than those colonies very heavily packed.

May we not therefore come to the conclusion that there is a balance, that this balance is made up of a series of factors, and that the greatest success results when all of these factors are in exact proportion to a certain necessary requirement. It is entirely possible that all of these factors may be provided in different ways so that one beekeeper secures an adequate balance through an entirely different process from that of another beekeeper. There are, however, certain fundamental requirements that are necessary. There must be a sufficient amount of young bees within the hive during the spring period, the colony must have adequate stores, and the bees can not rear the maximum amount of brood unless sufficient space is available for brood-rearing.

**Providing Water Within the Hive**

In providing of stores for the spring brood-rearing period, it is too often thought that honey is the only requirement. Our observations lead us to believe that a great deal of the strength of the colony can be preserved and spring losses reduced by paying particular attention to an adequate supply of pollen and water within the hive. We know that during the spring brood-rearing period a colony of bees will actually take five or six gallons of water from a feeder. We have also carried on observations with the number of bees that leave the hive during the spring period when water is or is not present. These observations during the past two years show that in colonies supplied with water, the number of bees that fly out during the cold days is at least 50 per cent less than with those colonies not supplied with water.

The matter of providing young bees in the fall is just as important as any other. It is not uncommon in Wisconsin to find colonies of bees that have quit rearing brood the first of September. This always happens where there is no honey flow and the bees have been robbed too closely of their stores, for, without stores, they can not possibly rear brood. Stores for rearing brood are just as important during September and October as they are during the spring period. Many colonies of bees are weak at the beginning of the honey flow because of an inadequate supply of stores for brood rearing during the previous fall as well as for spring brood rearing.

A recommendation which is given to Wisconsin beekeepers is that they save the first super of honey produced for fall and winter feeding. When only one super of honey is produced, the beekeeper should not consider that he has any surplus. If he wishes to remove the honey and sell it, he must then replace it with sugar stores. Two to four full frames of honey, given to the bees for brood rearing during September and October are usually sufficient. Four frames of honey, two on each side of the hive, put in just before the bees are put in winter quarters, with perhaps ten pounds of honey in the center frames, will take care of the bees adequately during the winter period. Whatever is left will more than double in value when used during the spring period. Maximum colonies for the honey flow can be secured only with a supply of stores at all times greater than is necessary for the requirements of the colony, during the periods of the fall and spring brood rearing.

Madison, Wis.

# Colony Card Record

Bruce L. Morehouse

## A System That Meets the Practical Requirements of Small and Large Beekeeper

Most careful beekeepers realize the importance of an adequate colony record system. In the same way as a pedigree is of value to the breeder of pure stock, so is a colony record and frequently a queen pedigree record becoming of increasing value to the foremost beekeepers of today. Yet there are so many kinds of records to show colony conditions and history that the authors of A B C and X Y Z of Bee Culture start right out by saying, "Almost every apiarist has a plan of his own." The beekeeper has choice of a simple notebook record, the card index, a system attached to the outside of the hive, or variations of these. Of course, no system is worth its upkeep unless the value outweighs the cost.

**Requirements of a Record System**

Just what constitutes an ideal record system, anyway? Naturally it should show the major conditions existing in the col-

ony, especially in regard to the queen. But, also, do we not want to know the history of that strain of bees as to building up qualities, gentleness, honey production, etc.? What a help it would be at times to know that a certain colony is marked "stingers," or that another colony has a record of large production for several years past. The strongest colony is not always the largest producer. In one case we would requeen and in the other case seek to perpetuate the good strain of bees.

Obviously a record should contain sufficient history of a colony to enable the experienced beekeeper to judge wisely in regard to manipulations when he examines the colony. Then, beside indicating the history and last-noted condition of the colony, an ideal record system must be of the least possible bother to the beekeeper. To sum up, we want a record system that (1) shows in compact form the high points of history of a colony; (2) shows last-noted major conditions of the colony; (3) is always easily available when manipulating the hive; (4) is of least effort to maintain.

**Simple System That Is Always on the Job**

Believing that any record is of little value away from the colony to which it belongs, I have worked out a record system that seems to embody these four points, at least in degree, without becoming elaborate. However, this system presupposes certain definite standardization of equipment. In the first place, all hives have an inner cover and a metal cover. The hole in the inner cover is permanently closed with a wood cleat, and this cover is never used as an escape board. In taking off honey the inner cover protects from robbers and the regular ventilated escape board is found more satisfactory.

A 4"x6" card is used and thumb-tacked to the top of the inner cover, where it is in full view right at the time one most needs to know what it says in order to manipulate the hive intelligently. This record can never be misplaced or forgotten and is always handy for perusal while going through the hive. When the hive is closed, any major manipulation or need is recorded, and, if necessary, a red block or other signal is used to call attention to any particular hive on the next visit. Thus if one has but little time to give to an out-yard, he may concentrate all that time on those colonies thus marked to need his attention. Frequently the other colonies will do better anyway than if he should go through them, since every manipulation is a disturbance, and the beekeeper is thus saved a lot of work. However, on the following visit he should again give attention to each individual hive, as different conditions may have developed.

**Data Carried Over from Year to Year**

One side of a card is usually more than enough for a season. When the colony is first examined in the spring, the old card is reversed or a new card supplied. Only important data is transferred to the new card. For instance: 1926, 250 pounds; 1927, 275 pounds; 1928, 275 pounds, shows that colony to be a consistently large honey producer. If they are "stingers" and not requeened, then "stingers" should be transferred. Each colony is numbered, on the card or hive, or both places, so that in case the American bee disease develops in a swarm or division, the parent colony may be traced. Thus, in addition to its handiness, this record system gives the main points of history for several seasons back, and any of the hive equipment may be changed without removing the record with it.

Of course, frequently one will examine a colony when no record whatever need be made, because everything is going along normally and no special action is necessary. Not every beekeeper will make the same records. Some want a more elaborate record than others. The production record has value in conjunction with the queen heading that colony and indicates her worth to the beekeeper. Beside this record, clipping queens on alternate sides to indicate their ages is a help. Sometimes a letter designating the out-yard is advisable. A card may be marked "Weak," "Blacks," "R. Q." and then when this is done put a dash and the date, thus "R. Q.—8-24-28." A diseased colony is prominently marked A or E along the top. As each super of honey is removed, a score mark is recorded.

By this simple card method the principal needs of colony record are embodied.

Morris, Minn.

[Without some system of records, valuable queens that should be used as breeders are often not discovered until they are too old to be of much service for this purpose. By this system of records, such queens can be located in time to prolong their lives a year or two by restricting their egg-laying.—Editor.]

# From the Field of Experience

## GREAT MEN IN BEEKEEPING

### Influence of Outstanding Characters Upon Their Followers

And thou shalt come to thy fathers in peace, thou shalt be buried in a good old age. Gen. 15:15.

And thine age shall be clearer than the noonday; thou shalt shine forth, thou shalt be as the morning. Job 11:17.

Mark the perfect man, and behold the upright; for the end of that man is peace. Psalms 37:37.

Only once in a while are ministers given an opportunity to preach a funeral sermon from such texts as the above. In writing this article I have in mind three characters, and have quoted three texts. These three men are Dr. C. C. Miller, A. I. Root and J. E. Crane.

These are the three great men of my childhood dreams. As a youth, I was fascinated by the quality of their writings, the beauty of their surroundings, and the charming mystery of their industry—the honeybee. While other parents were worrying over the trend of their children, my parents were permitting me to indulge in reading after these men, which reading gave me ears to hear the hum of bees, eyes to see blooming flowers, and a taste for the most delicious sweet that has ever been produced.

Having tasted of this fine quality of intellectual and spiritual inspiration, it seemed that my tastes enlarged in this direction, and I have ever since loved bees, flowers, and the out-of-doors things that are related to these interests. My whole life has more or less been governed and directed by these early influences.

It has been a matter of great satisfaction to me to observe to what length of life these three great men have been privileged to come. And it is with increased pleasure that I now note these words from the pen of Mr. Crane:

As to whether it was beekeeping or religion that has given me a long lease of life, there is reason to believe that both have been helpful.

I believe that this is true. Religion is an inward strength; physical exercise sustains the body in which we live; the outdoor air, a proper attitude of mind, and the use of honey as a food, all, in my judgment, contribute to longevity.

If men of the type of these three noble souls could in a very large degree become the heroes of the youth of this day, the future civilization would in a large measure be assured. And this needs being said the more because the movies have sometimes introduced characters of entirely different ideals to the children of this day.

I would that every country home and every city home with a back lot could have something of the outdoor appeal, such as bees afford, to interest the youths in the homes, and that men like those mentioned herein could become the ideals and heroes of the rising generation.—Rev. J. R. Stelle, Montpelier, Ind.

## HOW TO USE HONEY IN COOKING

### Simple Directions for Measuring When Substituting for Sugar

Honey, the most healthful sweetening agency known, is a great energy builder and may be substituted for sugar in all kinds of cooking and baking.

The housewife need not hesitate about the use of honey, thinking she must have special recipes—she may use it in any recipe which calls for sugar, by using one-fifth less liquid. For instance, if a recipe calls for one cup milk, use only four-fifths of a cup, as honey is nearly twenty per cent water. Use a scant cup of honey for every cup of sugar required.

The mother who uses honey in place of sugar will not need to deny her children cake, cookies, or a second helping of home-made ice cream. Honey is an excellent food for children, easily assimilated even by a weak stomach.

If honey instead of sugar is used in making bread, there will be little trouble with the bread becoming dry, as honey draws moisture and improves both bread and cake. Never keep honey in the refrigerator or cellar, but always in a warm dry place, preferably the kitchen closet.

When making boiled frosting for a cake, add one tablespoonful of honey when it is nearly ready to spread and your frosting will not harden. The flavor of mousse and all varieties of ice cream is much improved by the use of honey in place of sugar.

Warm honey and chopped nuts make a delicious sauce for plain ice cream. For

the children who use sugar on their cereal, honey will be a welcome change.

The next time you make an apple pie, try using honey instead of sugar, you will be delighted with the results.

**Steamed Honey Pudding**—Mix ½ cup honey with 2 cups bread crumbs. Add ½ cup milk and grated rind of ½ lemon with ¼ teaspoon ginger, or any preferred flavoring, ½ teaspoon salt. Beat thoroughly. Add two tablespoons melted butter and two eggs, well beaten. Steam two hours.

**Glorified Apples**—Make a syrup by using ½ cup honey and one cup water. Peel, core, and quarter six hard, sour apples. When the syrup boils, add the apples and cook carefully until apples are clear. Serve cold as a dessert with whipped cream.

**Honey Muffins**—1 egg, well beaten, ½ cup honey, ½ cup milk, 1½ cups flour, 2 teaspoons baking powder, ¼ teaspoon salt. Beat well and bake in muffin-tins twenty minutes.

—Juliette Frazier, Yamhill, Ore.

## A PORTABLE HONEY HOUSE

### Also Comfortable Living Quarters in Nomadic Beekeeping in California

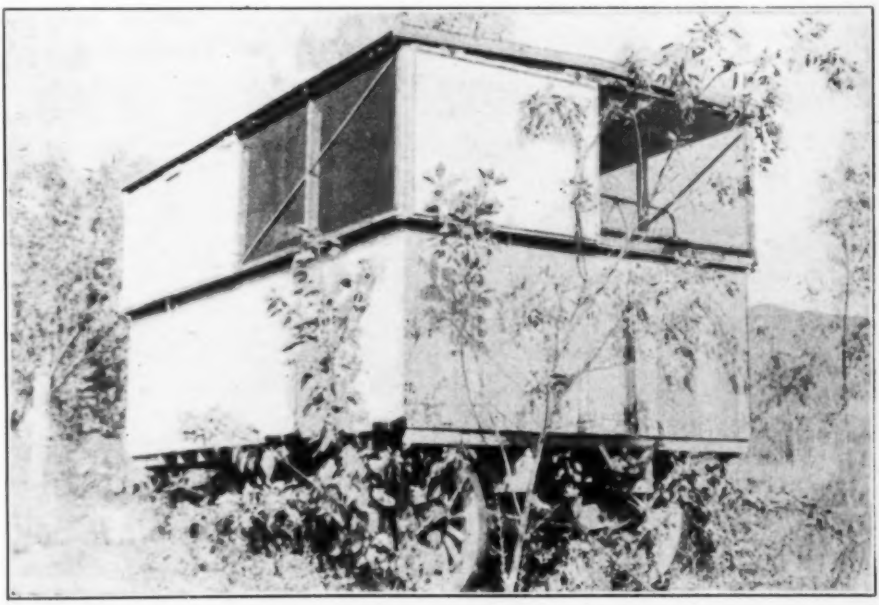
The building shown in the accompanying picture is just about the last word in equipment for migratory beekeeping. It is the property of Mr. A. K. Whidden, of Pala, San Diego County, California, and has been in constant service for many years.

The term "building" is used advisedly; for this is no makeshift or temporary affair. Those who pass this structure by with only a casual glance will never be able to appreciate its real value. A great deal of careful planning and skillful hard work went into the making of this portable house.

For foundation, the house has the chassis of a heavy motor truck, without the motor. Heavy steel tires have been substituted for the rubber; and wooden fellies have been placed beneath the steel tires as a kind of shock-absorber. Outside brakes on the rear wheels may be operated from the driver's seat on the truck that pulls the portable house. Heavy wooden blocks are placed beneath the springs, when the house is on location, for the purpose of making the building firm and solid. No outside braces or props are needed.

The building itself is substantially made. Framework, flooring, siding and roof are of practically the same materials and workmanship as would ordinarily go into a bungalow built on the ground. It was made to last a lifetime. In fact, this portable house shows no deterioration after years of constant use.

This honey-house is not only portable; it comes pretty close to being collapsible, as well. Of course, this does not mean that it can be folded up and carried around in a tool box; but it does mean



A portable honey-house that serves as living quarters until time to extract the crop of honey.

that, for transportation purposes, the building itself can be reduced in size to about one-half its ordinary bulk.

The picture shows the top half of the building projecting slightly over the lower half. The top part telescopes downward over the lower part until the roof rests securely on the top of the lower part. The width of the building remains the same, which is as much as the law allows on the highways; but the lowering of the top makes the building much easier and safer to move on the roads.

The lowering of the upper part of the house is accomplished by the use of an ingenius system of pulleys and steel wire cables. The cables center on a drum that may be dimly seen in the picture above the drawbar. The drum is operated by a detachable crank, and is geared for power, so that the top of the building may be either raised or lowered with very little effort.

At the time the picture was taken, the house was in use as an outdoor sleeping apartment. The head of the bed may be seen through the wire screening. In their migrations to and from the orange groves, Mr. and Mrs. Whidden use this portable house as living quarters until the time for extracting the orange honey arrives. It is then transformed into an extracting house, and used as such until it is time to migrate from the oranges back into the mountains.—Robert B. McCain, Lompoc, California.

## MAKING A BEARD OF LIVE BEES

### Pulling of Bee Stunts at the Missouri State Fair

After giving live-bee demonstrations by putting a thousand bees in my hat, sending a swarm up in the air, etc., at the Missouri State Fair, at Sedalia, I was asked if I could put on an extra stunt for the benefit of some of the fair officials. I said I would do it if I could get a subject who would stand the ordeal.

That subject, or victim, was W. F. Matthes, Pleasant Hill, Mo. I told him I would grow a beard of live bees on his face. With the help of Deputy Bee Inspector Mr. C. Denny, with a fist full of bees I caused a beard to grow on the face of Mr. Matthes as shown in the accompanying picture.

A queen was caged under the chin of the victim, and then bees in small lots

Left to right: W. F. Matthes, E. R. Root and C. Denny.

were dumped upon his chest. In a few minutes the "beard" assumed sizeable proportions.

"Did it hurt?" some one asked. "No," said Mr. Matthes, "just itched where the bees stuck in their claws."

At the time the picture was taken I was explaining to the fair officials how it was done and that it was perfectly safe. I was in the center of the group in the act of speaking and K. C. Sullivan, entomologist and state bee inspector, just out of the picture, was too modest to let his picture be taken. Never mind, I'll show him in some other pictures that were taken.—E. R. Root.

## LOCATING A BEE TREE

### A New Kind of Publicity for Bees and Honey

Westchester County is exceptionally active recreationally. We have an official recreation commission which functions in diverse ways. This commission was largely

**Largest group of bee hunters ever assembled receive instructions before starting the great hunt.**

instrumental in the organization of the Westchester Trails Association having several hundred members. They organize rough hikes under competent leaders and issue programs in advance quarterly.

The initial activity this fall was a bee hunt led by the writer. Thirty-five men and women took part. The start was made in the wooded hills north of Wampus Pond in Mid-Westchester with nine bee-hunting boxes. The members quickly learned to trap the bees, and, as it was mid-September, the bees "doubled" rapidly. Soon thousands of bees gave us a dozen lines. While the doubling was being accomplished the leader gave a short lecture on bees and their habits. The photograph shows the members at this point.

The line in which the majority of bees flew, and which could be assumed to be the nearest line was then chosen. Working on the "follow" principle of bee-lining, we followed the compass over the hills in this direction as shown in the illustration.

**The hunters, carrying their bee-hunting boxes and hot on the trail, move along the "line" to a new position.**

**The lines established by the hunters led directly to the bee tree and to the opening marked in the illustration with an X.**

You will note three members carrying bee-hunting boxes. The third position where the boxes were placed was found to have over-shot the mark as the bees returned. On following the return line, we soon located the bee-tree, the bees entering at point x in illustration.

It was surprising that the bees exhibited no fear of this large number of people, and it was likewise gratifying that they behaved themselves so well that no one was stung. I have the feeling that possibly this is the largest bee-hunt as regards number of participants that has ever been undertaken.—Law Voge, New York, N. Y.

## VINCENZO ASPREA

### Noted Italian Beekeeper, Writer and Educator Passes On

On September 17, there passed on in Italy, Doctor Vincenzo Asprea. The Italian beekeepers have lost in him one of their pioneers and masters. He spent thirty years of his life working with bees and for bees. He was born in Reggio Calabria, in South Italy near Sicily, in 1874. He studied law at Naples University, but he liked better to live quietly by his hives near the shore of the blue Mediterranean Sea, where bees don't know of snow, and where, in February, they are busy gathering honey from almond and orange blossoms.

He attended to revising and reprinting two valuable books of Italian bee literature: L'Apicoltore (The Beekeeper) of Canestrini, and "L'ape e la sua Coltivazione" (The Bee and Its Culture) of De Rauschenfels. He wrote also a book on queen-rearing. In addition Vincenzo Asprea was a great contributor to Italian beekeeping periodicals for years and years. His articles were clear and instructive. On his desk you could have found bee journals from all parts of the world. He was of great help to Italian beekeeping on account of his practical science; he loved the bees, and he loved, of course, all beekeepers.

He passed on quietly as he lived. Vincenzo Asprea fell asleep one night, having in his heart the buzzing of the bees, and he did not awake next morning. He was done, but his work and his soul are still alive with all the beekeepers in Italy.—Costantino Ambrosoli, Como, Italy.

## PASTING LABELS TO TIN

### Rapid Method of Applying Results in Smooth Tight Labels

Use ordinary label paste as sold by your bee supply dealer. Mix a small amount, say a tumbler full, to the right consistency. By the use of a brush, spread two coats evenly upon a sheet of galvanized metal (its size is not important). Take a small pack of your labels and lay one at a time gently, face up, on top of the paste, so that they are about one-fourth of an inch apart, and can not touch each other.

After this is done, level each label down that has attempted to roll its edges up. Place over all of the labels a full sheet of white paper, preferably 20-pound bond. A large white-backed sheet of a calendar will do. With the brush spread clean water over all, taking care not to use too much water, or the color of the label will come off onto the large sheet.

As the labels are used the wet sheet is rolled back, allowing one row of labels to

be exposed to the air at a time—the rest are kept damp till needed.

Lay the empty pail on its side, bail and seam down. Slip the finger nail under the edge of a label, lift it carefully from the metal, and place it in position on the pail. It will be noted how even the paste is spread on the back of the label and how the paper has lifted away the surplus paste from between the labels.

Brush the label carefully to the right with a dry rag, and clean away any paste that comes to the side of the label on the tin. With the left hand, swing the pail around so the label reads upside down, and again brush to the right, and the label is on. The pails are stacked upside down on the table, so no dust will get in before filling.

The labels go on easily; they do not roll up, and are done much quicker than when one or two are done by the brush at one time. When the label is dry, it never buckles up and never looks unsightly; being dampened, it dries down tight and all edges are secure.—Gilbert Becker, Climax, Mich.

## HONEY SIGN STOPS TRAIN

### Engineer Stops His Train at a Roadside Honey Stand

I have a roadside honey selling stand on a well traveled highway near Medina, Ohio. It is within forty feet of a railroad, and on the front lawn of a neat dwelling house, the owner of which attends to the honey sales. The photograph shows what the honey selling stand looks like. The metal honey sign is 18"x28", or, rather, there are two signs, one directly above the other, on the same wooden standard. The lettering is exactly the same on both sides of the signs.

This small honey stand certainly has done its part to help keep the world sweet. It has not only stopped many tourists but a freight train as well. Evidently, the engineer of the train had noticed the honey sign as he passed by on his run from time to time. After the sign had arrested his attention, he became interested in the honey offered for sale. After his interest in the honey had ripened into a desire for the honey, he evidently decided to put that desire into action, so he stopped his train long enough to purchase two five-pound pails of honey.

The honey sign that stopped a train.

This incident simply illustrates the power of advertising. In the first place, the word "Honey" on the sign stands out prominently. The bee hive, painted white, seems to have the effect of helping to convince the prospective buyers of the purity of the honey. The top of the bee hive is a good place to display a few packages of the honey to good advantage. Furthermore, it seems essential that the price of the honey be announced on the sign so that the prospective buyers may know, without asking, whether or not the price of the honey is within the range of their pocketbooks. Quite often a prospective buyer, not knowing the price, will hesitate to inquire about it because of feeling obligated to buy after making the inquiry.

It is an advantage to locate a roadside stand near or at an intersection of main roads, a curve in a road, or at a gasoline station where automobiles will naturally slow down a bit. In the case of my honey stand near the railroad, the automobiles

naturally slow down, or should do so, as they approach the railroad crossing.

The gist of the matter is this: In order to sell them, we must tell them.—M. J. Deyell, Medina, Ohio.

## HONEY CONTAINERS

### The Industry Would Profit by Reducing Number of Sizes and Patterns

It can scarcely be said that we have standard containers for retailing of honey. The 60-pound tin can, two in a case, is standard for wholesaling, of course. I have used, seen or heard of over thirty different sizes or kinds of containers for extracted honey. It seems as though about ten different containers would answer for all classes of buyers, and, if so, the reduction would tend to lessen the cost of containers to beekeepers, as well as to simplify the handling of honey by shipper, packer, wholesaler and retailer.

From both experience and observation, I would suggest the ten following sizes: 1-pound, 2½-pound, 5-pound, 10-pound, 30-pound and 60-pound in tin; half-pint, pint and quart sizes in glass, for those who prefer glass; and 50-gallon barrels for bakers and export trade.

Little bottles of honey are nice to look at, but the small bottle has discouraged many a would-be consumer when she stops to figure the cost per pound, for the 5-ounce and 2-ounce sizes often cost the consumer at the rate of 45 cents to $1 per pound for honey. How much honey would you eat at such a cost?

If my own observation is correct, about two-thirds of the extracted honey sold at retail could be sold in containers holding from one to five pounds each. I never was able to sell more than 30 pounds to a family at one sale, although they might buy 60 pounds or more in a year.

When Herbert C. Hoover was Secretary of Commerce he did a very meritorious job of initiating a reduction in

Some of the committee and principal delegates at the 11th International Conference of the Apis Club, L[illegible]n, E[illegible] ference Committee; Ph. J. Baldensperger (France), Chanoine A. Delaigues (France), E. Green (England), Rt. [illegible] Lord of the Apis Club and editor of The Bee World; J. B. Lamb (England); W. E. Hamlin (England), Dr. C. R. K[illegible] (En M. Haerens (Belgium), Dr. Soudek (Cheszko-Slovakia), Dr. Gasparik (Cheszko-Slovakia), Dr. C. C. Lord (Engl[illegible]), Mi Kretschy (Germany), L. S. Harker (England), Dr. Bertholf (United States), E. G. Burtt (England), Rev. D. [illegible]ryce

the number of sizes and patterns of various manufactured articles, such as screws, bolts, brick, lumber and a great many other articles, which in the aggregate is saving millions of dollars to manufacturers, dealers and consumers. We might profit by this example.—A. N. Clark, Charlotte, Mich.

## A Beekeeper Told It

### Weeds and Grass Around Hives

The article on "Weeds and Grass Around Hives," in a recent issue of Gleanings interested me much as this has been one of my great troubles. Till last month I had a hundred hives in a small orchard of grapefruit and other trees, but the grass at last became too much for me, and I moved them to an open field where there were four horses. Some time before this I had put a fence around the hives while yet in the orchard and had installed a young ram. He grew up, and took to damaging trees. His horns also grew long and sharp, and he developed habits. His name was "Ebineezer." He did not like visitors, and occasionally I had to retrieve him out of the hands of men frantically holding him by the head. One day the parson came. He was a new man, and, as he expressed an interest in bees, I took him into the yard and opened a hive for his instruction. Being well over six feet in height he had to stoop somewhat, and as he did so "Ebineezer" saw the chance of his life. There was a swift and effective contact. I pretended not to catch what that parson ejaculated as he took a header among the bees. It was in the vocative (or exclamatory) case and might after all have been Latin. Anyhow, he got inoculated and now keeps two hives in his garden. "Ebineezer" is dead.

I found horses better than cows for

(Continued on page 796.)

, London, England, September 6, 1930. Front row, left to right: F. Essex Moorcroft (England), Hon. Secretary Con-
t. Lord Ebbisham (England), Dr. T. W. Wakefield (England), Miss Annie D. Betts, B. Sc., (England), President
(England), director of the Apis Club. Back row, left to right: Dr. de Boer (Holland), Dr. Grunsfeld (Austria),
), Mrs. Anderson (Scotland), Mrs. Hamlin (England), L. Illingworth (England), Dr. J. Stitz (Austria), Dr.
D. Bryce (England); Dr. John Anderson, M. A., editor Scottish Beekeeper.

# From North, East, West and South

## Southern California

The past month has brought but few changes in the honey market situation in southern California unless it be that the buyers are a little less inclined to make offers. Some honey is moving all the time, and the retail demand seems to be about normal. When a beekeeper knows that he can sell at any time he has a satisfied feeling; but when he has to look up the buyers and they are indifferent, he is always a little uneasy.

It is not easy to determine just what part of the crop is still in the hands of the producer. It is perhaps thirty to forty per cent. This would not be a bad condition were it not for the fact that most of the beekeepers need money. While there is much discontent among the beemen, still, when one looks around, he finds few contented people who are raising agricultural crops of any kind. So there is no use to think that we would be in any better position at anything else. Things will change as they always have done in times past and we shall soon forget this depression.

**There is Now a Possibility That Arrangements Can be Made by Which the State Will Pay for Colonies Destroyed to Prevent the Spread of Disease.**

Among the laws approved by a majority of voters in the recent election is one which authorizes indemnity to owners for live stock destroyed to prevent spread of disease. This law declares that nothing in the constitution shall be construed as limiting the power of the legislature to provide by general law, from public moneys or funds, for the indemnification of owners of live stock taken, slaughtered or otherwise disposed of pursuant to law to prevent the spread of contagious or infectious disease; provided, the amount paid in any case for such animal shall not exceed the value thereof.

Will the beekeeper whose bees are destroyed for foul brood be able to get under the shelter? Here is hoping that he can. If he can only get remuneration for the hives, frames and wax destroyed, it would go a long way toward satisfaction, and help bring about the best co-operation in carrying out the intention of the law.

No rain of any consequence has fallen so far this fall over our part of southern California. To the newcomers, our country looks awfully dry; but they soon learn to love it, and become accustomed to seeing the effect of irrigation. It is certainly amusing to read the different prognostications of a dry winter, a wet winter, usual rainfall, abnormal rainfall, etc. After it is all said, we shall have just the amount that the good Lord wills, no more, no less.—L. L. Andrews, Corona, Calif.

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## Oregon

By the time this is in print our next annual meeting of the State Beekeepers' Association will have come and gone, so it will be of no use to urge beekeepers to attend, and we are not in position to report what will be accomplished at the meeting. We can say, however, that we are hoping to get somewhere this winter with definite legislation relative to disease control work in the state, and as things look now we will have one of the most valuable meetings which we have had in recent years.

**The Oregon State College Will Co-operate with the New Pacific Coast Apicultural Experiment Station in Working Out Beekeeping Problems Peculiar to the Pacific Coast.**

Largely through the efforts of Senator Steiwer of Oregon, the entire appropriation amounting to $15,000 for the Pacific Coast Apicultural Experiment Station has been secured. For a time it looked like this appropriation would be cut in half. This is not the only time that Senator Steiwer has made a special effort to assist the beekeepers of Oregon, and we surely appreciate what he has done. Although the experiment station is to be located at Davis, California, we are assured by Mr. Hambleton that some very definite and constructive work will be carried on in the Northwest. The Oregon State College will co-operate in this work. Further and more specific announcements relative to the line of research will be made at a later date.

The bees seem to be going into the winter in fair condition. There has been a decided improvement in the quality and quantity of honey produced in the Willa-

mette Valley during the last year especially. This apparently is due to the enormous increase of volunteer hairy vetch, which has become so extremely abundant along fence rows and in waste places. The honey from this vetch is very light in color—almost water white—and is secured from the blossom of the vetch, which is not true of most vetches. Since this plant has come in as a volunteer, it is here undoubtedly to stay.

The honey market shows no particular change. Honey seems to be moving in about the usual slow way. Prices remain about the same.—H. A. Scullen, Corvallis, Oregon.

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*Utah* The season closed here with a smaller crop of surplus than was expected earlier in the season. With a light crop, a demoralized market, light demand, and a quantity of unused supplies to be carried over, many so-called beekeepers are discouraged, and it will be some time before they can sing "Happy days are here again."

I was one of the first to take W. Z. Hutchinson's advice to "keep more bees," but it looks now, when we view supply, demand and consumption, that we have nearly reached the saturation point.

I noticed in a chain store two-pound glass jars of honey put out as leaders at 43 cents. It looked like an overheated blend where the diastase (and even other taste) had been destroyed. In the same store were 5-pound pails of better honey at 45 cents, 10-pound pails at 90 cents, and 60-pound cans at $3.60 each.

**An Interesting Experiment in Selling Off-grade Comb Honey Reveals the Influence of Price on Sales**

In grading my comb honey, I had one hundred cases which I called No. 3. While it was cull honey, I didn't call it that, but I might have called it No. 1 as far as the dealers' and consumers' knowledge was concerned. I traded it to chain stores so they could sell it on a close margin at two for 25 cents. Some was off color, some travel-stained, some unsealed, but the sections weighed from 10 to 14 ounces. Then I supplied some straight 14 ounces No. 1 that retailed at 20 cents, so there was honey for two kinds of trade. The cheaper sold the better. Of course, the buying power of the public is limited, but the cheap honey that is on the market should increase consumption and thus create a taste for it.

Bees are in fair winter condition. A little excess of moisture has inspired the hope that better crops and better prices are just around the corner. So, with faith in ourselves, our country, and our God, we go forth not like those who die without hope.—M. A. Gill, Hyrum, Utah.

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*Saskatchewan* We are now enjoying splendid Indian summer weather and are appreciating it more than usual this year, owing to the fact that we recently experienced a real taste of winter. On October 17, an early blizzard swept across the province bringing two weeks of severe weather with it. From all appearances at that time, there was little chance of a let-up before spring, but Indian summer has come, bringing some very mild weather with it, and the bees have been flying freely for the past week.

The compilation of the 1930 honey crop reports for the province has just been completed and despite the fact that the southwest and south-central sections experienced a total failure, other sections had an excellent crop. The total crop this year amounted to 696,372 pounds, which is the largest harvested in Saskatchewan to date.

**The Market for Honey Produced Within the Province is Still Chiefly in the Country and Small Towns.**

Honey is moving slowly in the cities, and a great deal of price cutting has been experienced. However, as the greater part of Saskatchewan's honey crop does not reach the cities but is sold throughout the country and in small towns, the slow market has not been felt by a large number of beekeepers.

Owing to the low price of grain, one sees many strange conditions. One farmer who rents a quarter section of excellent grain land in one of our best districts actually made more money this year from his two colonies of bees than he did from his entire grain crop, and he had a good one. After threshing his crop and paying his rent he was some six dollars down on his season's work, plus the cost of his seed and the cost of sowing and preparing the land. This farmer secured some three hun-

dred pounds of honey worth 17 cents a pound from his two colonies of bees, and thus made more money from his two colonies of bees than from his quarter section of grain land. Of course, this is an unusual condition but it does bring out the advantage of a few colonies of bees, along with other diversification on the farm during hard times.—R. M. Pugh, Regina, Sask.

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*Manitoba* The subject of marketing is the leading one in the minds of our beekeepers at this time of year. Marketing of all lines of foodstuffs at unheard of low prices because of shortage of money, is being discussed everywhere, and honey does not differ from the other lines.

Some producers report having sold their crop of white honey as low as six cents a pound. They all report crops this year whether in sweet clover districts or not. With wheat selling at 55 cents, and barley, that cost 27 cents a bushel to grow and harvest, selling at 15 cents leaves little money for anything. Last year wheat growers complained when they were getting double the price, this year they more than complain.

While honey sales made so far have been two cents lower than last year, there are few complaints. But when will the prices reach bottom is the question now. We have large quantities of old honey from other provinces on this market which is not moving. This, together with a big crop of new honey of excellent quality, has made a worse combination than we have ever had to face before.

**Low Prices of Grain Are Causing Some Farmers to Turn to Beekeeping for Diversification.**

Next year will see a big rush to take up mixed farming. Live stock men state that the demand in their line was never better, so the indications are that there will also be a big boom in beekeeping in spite of low honey prices. We have never had so many inquiries regarding the winter short course, and the opinion seems to be that bees are as profitable as other lines. So there is little to complain about.

We were forced to pay higher prices for cans this past season and also found them hard to get at any price. Altogether it looks like a market so loaded with honey that a quantity will be carried over with higher prices on the supplies we need and a position that would otherwise be discouraging. Conditions are not bad in comparison with our principal industry, grain growing.—L. T. Floyd, Winnipeg, Man.

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*Texas* The weather throughout the month of October has been more favorable to bees and beekeepers than any time during 1930. With the coming of cool weather and good rains, broom-weed, yellowtop, cotton, and many unknown composites gave continuous but light honey flows. This insures the wintering of many colonies without supplying further feed.

The honey plants are in fair condition. Huajilla made a splendid growth this summer, and should give a wonderful crop next spring. The hard-wood honey plants have made sufficient growth this fall to insure a spring blooming. Many beekeepers took advantage of the fall blooming in the hill country to pick up a winter supply of pollen and nectar.

The beekeepers of the state are still anxious to do something to better their marketing conditions. It is quite probable that a meeting of beekeepers will be held in San Antonio some time in February, the date to be announced later. Just what movement will be attempted will depend upon the number of beekeepers attending this meeting.

**A Study of the Competition Between Honeybees and Native Insects Reveals an Interesting Relationship.**

It is very interesting to study the relationship which the honeybee bears to the native hymenoptera. It has been said by many ecologists that the honeybee is an usurper, in competition with the wild bees. An extensive study of this subject, made this summer, gives the following generalized statement:

During the spring the honeybees do not come into competition with native insects, as the honeybees do their work early in the morning, before the native insects begin to fly. As the summer advances the period of time during which the honeybees work becomes shorter and the period of time which the native insects work becomes greater. As fall comes on again the honeybees increase their hours of work,

and the native insects decrease theirs. At the present time honeybees alone are working in great numbers on the abundant composites without competition as it is too cold for native insects.—H. B. Parks, San Antonio, Texas.

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*Arizona* The weather has continued warm and dry to date, Nov. 3. Bees have continued to gather some pollen, and they are generally in fine condition for winter. Considerable damage was done in the farming area from arsenic spray to destroy the boll worm on the cotton. Bees were working on the cotton heavily at the time of spraying, and all the field bees died wholesale. The colonies dwindled down in strength rapidly, leaving only the young bees in the hive. They, too, were destroyed when old enough to go forward in search of honey and pollen.

I do not know whether there will be any action taken against the company doing the spraying. The spraying was done on a large scale by the use of an airplane.

The Arizona State Fair will be held in Phoenix between the 10th and 16th of November. With present conditions, it is not likely to draw the large crowds it has in the past.

There is practically no honey moving so far as I have heard. We may as well forget about the bee business for 1930, take our rod and gun and go forth on our annual fishing and hunting trips.—Leslie Wedgworth, Oracle, Ariz.

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*South Carolina* The fall honey flow was only medium, and did not give as good a crop as we had expected. I think this was caused by the dry fall. Aster is still yielding, but in a few days there will be frost enough to kill it.

It looks as though the bees will go into winter with plenty of stores to carry them through. Practically all the honey taken off has already been sold. There is a little aster honey on the market.

A few beekeepers have reported that their bees have gathered bitter weed honey. When this is mixed with honey from other sources, it makes all the honey bitter. Sometimes I think this is a blessing in disguise as it makes them leave the honey on the hives for winter stores. The biggest mistake beekeepers in this state make is not leaving enough honey for winter and spring.

In South Carolina we do not have many beekeepers' meetings at this time of the year as there are so many county fairs going on. Usually there is a honey exhibit at each of them in which much interest is manifested.—E. S. Prevost, Clemson College, S. C.

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*Minnesota* National Honey Week is being given a great deal of notice in Minnesota. Publicity was given through newspapers and radio talks. Beekeepers and others were urged to listen in on Betty Crocker's broadcast over WCCO, Minneapolis and St. Paul. The Mountain States Honey Producers' Association, which for the past several months has been giving two broadcasts a week on honey over KSTP, increased that number to four for National Honey Week. These broadcasts are having a very noticeable effect in increasing the amount of honey which is being consumed here in the Northwest. The demand for honey in small containers is much more active than one would expect in view of the present economic conditions.

During the week following National Honey Week the Minnesota beekeepers will get together at University Farm, St. Paul. On the first three days of the week, that is, November 17-19, the University of Minnesota will give a three-day short course in beekeeping in which the fundamentals of beekeeping will be given. On the last day of the short course, special attention will be given to the problems of the commercial beekeeper.

Following the short course the Minnesota Beekeepers' Association will hold a two-day meeting on November 20 and 21. In addition to a number of Minnesota beekeepers the following out-of-state speakers will be present: Prof. F. B. Paddock, state apiarist of Iowa; Malitta D. Fischer, secretary of the American Honey Institute, Indianapolis, Indiana; Mr. A. W. B. Kjosness, manager, Mountain States Honey Producers' Association, Boise, Idaho; Mr. T. M. Manchester, vice president and manager, Manchester Biscuit Company, Fargo, North Dakota, and Mr. Kennith Hawkins from the G. B. Lewis Company, Watertown, Wisconsin. A beekeepers' banquet will be held on Thursday evening.—M. C. Tanquary, St. Paul, Minn.

*Iowa* The honey flow started off very nicely over most of the state, but with the coming of the severe drouth the flow was cut off in all of the areas where sweet clover was not present. The southeastern part of the state suffered especially and those little spots where sweet clover is grown certainly stood out this year in the matter of production. In the northeastern part of the state where sweet clover is more abundant, the crop was correspondingly larger. Throughout the western part of the state where sweet clover is predominately the honey plant, the honey crop was not as short as was feared.

**Good Prices for Honey Have Been Realized by Turning from the General Market to the Local Markets.**

Honey did not move readily in large quantities to the buyers of the East this year. It looked for a time as though honey would stagnate and that the price would be very materially depressed. To counteract this, producers were instructed to give every possible attention to the local markets. The result of this campaign has been highly satisfactory, in fact, beyond expectation. Producers everywhere have been able to move their honey at a good reasonable price. In fact, many have already sold out their crops. There is still some talk heard in regard to price cutters, but the lament is less this year than in normal years.

While the season has been adverse from beginning to end, yet if we have been able to learn by the experience of the season we should profit, first, from the standpoint of better management and second, from the standpoint of developing a local market for honey.

The radio station of Iowa State College known as WOI conducts what is called the "Homemaker's Half Hour," which occurs Tuesdays and Thursdays at 10 o'clock. Recently an article given over the radio at this time had to do with the place of sweets in the diet. Mention was also made of the fact that honey recipes would be available for distribution. The replies which have come in from listeners, indicate a tremendous demand for information in regard to honey. Those in charge of the Homemaker's program were surprised but pleased to note this interest, and they are increasing their efforts in behalf of the consumption of honey. They expect to distribute a large number of recipes wherever requested, and later in the winter more talks will be put on about honey, its value as a food, its place in the diet and recipes for its use.—F. B. Paddock, Ames, Iowa.

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*Northern Indiana* In the past season basswood and sweet clover gave a considerable amount of surplus, but apparently it was largely consumed by the bees before the fall honey flow came on. There was no white clover or alsike here this year. During September, in this locality, there was an excellent flow of goldenrod and aster honey which enabled bees to secure ample stores for winter and some surplus. Some colonies were found short of food where there was a large amount of late brood and too much room in extracting supers, necessitating feeding. Buckwheat, in this locality seldom yields nectar in appreciable amount. Although there were several large fields near one of our apiaries this year, very little buckwheat honey could be found in the supers, as is usually the case.

The average of normal year crop in northern Indiana is about 60 pounds or one can of extracted honey per colony in well-kept apiaries. In 1929 the yield was probably more than twice that amount. The crop of 1930 is estimated at about one-fourth to one-third normal, though some apiaries considerably exceeded this estimate. The average of all colonies in all apiaries is, of course, much less, probably not over five or ten pounds per colony this year, many beekeepers getting only swarms and no honey.

A short crop, together with low prices wholesale and difficulty in selling at any price, seems to have discouraged many who are keeping bees, and there is a probable reduction of 25 per cent in the number of live colonies from last year. Apparently, many small apiaries are being neglected.

Local sales of honey seem to be on the up-grade and considerably better than a month or so ago. The demand should improve from now on. The demand is largely for the darker grades. Slow sales are probably due in part to the fact that many people are out of work and must necessarily economize, and, as the retail price of honey is higher than that of sugar, honey is considered somewhat of a luxury.—E. S. Miller, Valparaiso, Ind.

**Wisconsin** The Wisconsin state convention will be held at Madison, December 4 and 5.

An open fall in Wisconsin has permitted the bees to rear brood late where they had sufficient stores, but unfortunately many colonies have not had adequate stores, and are not now in the best of condition because of a lack of young bees. If feeding is not resorted to, many colonies will be put away for winter without sufficient stores. Because of a lack of rainfall, much of the clover is not in the best condition, and should we have an open winter, as seems possible, the clover may suffer badly in the early spring.

**Efforts Are Being Made to Create a Permanent Source of Income for Carrying on the work of the American Honey Institute.**

The Wisconsin State Beekeepers' Association is starting a drive to create a permanent contribution to the American Honey Institute. The officers of the association believe that this is the finest and most constructive effort that has ever been started in behalf of the beekeeping industry, and that the beekeepers should concentrate throughout the entire United States in providing financial means for the continuation of the Institute. Although organized by the supply dealers, the beekeepers receive the greater part of the benefit, and the Institute, in two or three years, has done more advertising and has given more publicity to honey than all other agencies combined have been able to do over a period of years.

In the United States, at least 5000 beekeepers should be found who would contribute $1.00 a year to the Institute, and certainly the beekeepers of America should be willing to finance their own publicity. If the American Honey Institute is forced to discontinue its work because of a lack of finances, the beekeeping industry will lose the finest opportunity ever presented to it for carrying publicity to many housewives who have never been reached before.

Through the efforts of the officers of the Institute, many dietitians in charge of work for such concerns as the Kellogg Company have become interested in honey, are using it in some of their recipes, and are talking about it at public meetings.

We doubt if $100,000 would have bought as much publicity for the beekeeping industry during the past year as has been provided through the efforts of the Institute.—H. F. Wilson, Madison, Wis.

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**North Dakota** Although the yield of honey for the season in this area has been the poorest on record and prices are none too encouraging, yet beekeepers seem to be giving the same careful attention as ever to bees.

According to reports, a few beekeepers have already placed their colonies in cellars. A spell of very cold weather during the third week of October apparently prompted these owners to move their bees in. As in past years, it is probable that the bulk of colonies will be moved in during November. Colonies are going into winter quarters none too well provided with stores but otherwise in good condition.

**All Conditions Must be Right if Colonies Are to be Wintered Successfully in the far North.**

This season more interest than usual has been accorded the wintering of bees in packing cases out of doors. The writer has visited several beekeepers of this area who have been trying this method, either for part or all of their colonies. Those who use this method report varying degrees of success. Some have wintered outdoors without apparent loss, whereas others have reported losses ranging up to 50 per cent. It would appear that where the apiary is properly sheltered by a windbreak of trees, and where hives are prepared according to approved methods, that the colonies winter successfully. Most beekeepers of this section regard outdoor wintering as the more hazardous.

The annual meeting of the North Dakota Beekeepers' Association and the winter short course at the North Dakota Agricultural College, Fargo, will be held during Farm and Home Week. The association will meet at the college on January 21 and the short course will be held the following day. The program which is being arranged should be of interest to every beekeeper. On account of the many activities going on in connection with Farm and Home Week program and the reduced railroad rates in operation, this proves to be a very satisfactory time to hold the beekeepers' meetings.—J. A. Munro, Fargo, N. D.

**Ontario** This is November 10, Thanksgiving Day here in Canada. As I type these notes before attending morning service in our church here at home, my mind is inclined to dwell upon conditions in a general way, rather than to concentrate on matters directly pertaining to beekeeping. With thousands out of work and many people hardly knowing just how to turn to get the necessaries of life, we wonder sometimes just what many have to be thankful for. But if we turn our eyes toward some other countries, comparison with conditions prevailing in some places should cause even the most pessimistic to be able to give thanks. At times like this, certainly those who have abundance should give thanks with all heartiness, and not only be happy because of their freedom from want but more so because they have a chance to help those less fortunate than themselves. "It is more blessed to give than to receive." No truer statement has ever been made, and if any are inclined to doubt this, try it out in a genuine way and be convinced.

In common with all other commodities, honey is feeling the present depression quite keenly and we notice this in local sales. Much of our local trade is among farmers. As all know only too well, the price for grain and other produce is ruinously low at present. Many, who in other years bought from 50 to 100 pounds of honey, have this year cut their orders in half and some have bought no honey at all. Many frankly say that money is scarce and that they are refraining from buying anything except absolute necessities. While many beekeepers as well as some others count honey in this class, unfortunately the masses do not, therefore honey sales can not help but suffer during hard times.

The weather here in central Ontario has been favorable for getting bees in shape for winter, and I believe that the bulk of this work is now done. While we have had some heavy frosts for so early in the fall, yet we have had little rain, not enough in many localities. As a consequence, work has not been held up very much by adverse weather. We like to have most of the work done by November 1 as after that we are apt to get light snows and cold weather which is not ideal for packing bees.

Last spring we moved 200 colonies from Haldimand County to our home location, and, for the first time, we have had considerable work with the four-colony winter case. We find them cumbersome and slow to work with compared with the single, permanently-packed case. We have spent more time packing these 200 colonies than with all the rest of our bees. "Many men of many minds" will always cause difference of opinion, but, personally, if starting all over in beekeeping, quadruple cases would never be even considered.

It is argued that bees are warmer in winter in these cases than in single cases, which may be true. But the answer to that argument is that they winter just as well in the single cases; that discounts the heat question considerably. One man can hardly handle the covers on these big cases, and in the spring it is much easier to examine bees in single cases than in the big quadruples. However, the advocates of the quadruple cases will no doubt continue to use them and be happy, and your humble scribe will use the single cases, and endeavor to be in a like frame of mind.

**The Meeting of Beekeepers in Toronto in February Will be a Joint Meeting of a Number of Different Societies.**

Since sending in notes for the November issue, I have learned that the annual convention of the Ontario Beekeepers' Association has been postponed until February when it will be held in conjunction with the American Honey Producers' League. The dates are February 9 to 12, inclusive. At the same time the Bee Industries Association, the Apiary Inspectors' Association, and the Ontario Honey Producers' Co-operative, will also hold their annual meetings. Truly and imposing program, and we look for a large attendance. Further particulars will appear in the different bee journals.

Knowing the folks who will have charge of the arrangements here in Ontario very well indeed, I feel safe in assuring our visiting beekeepers that everything that is possible will be done to make the meetings profitable and a pleasure to all who may attend. On behalf of the beekeepers of Ontario, I take the liberty in these columns of giving all a hearty invitation to meet with us in Toronto next February.—J. L. Byer, Markham, Ontario.

## Winter Protection

I have always been interested in the subject of winter packing. By reading all that I could find on the subject and conversing with the best authorities, I certainly have learned a heap. However, just how to tabulate this information in order to get it into available form has given me considerable trouble, due to the fact that from the high-brow, college-trained, laboratory-bred beekeeper down to the box-gum type, there seems to be about the same disagreement as to whether packing pays; and if it does or does not, just how much or how little should or should not be used.

One who is author of several books tells me that the general consensus of opinion is that heavy packing is a great benefit in warm climates, but that away up North where the blizzards bliz and the bottom drops out of the thermometer as it did with the stock market, bees winter much better with no protection, for the packing keeps them cold; and when a warm day comes the unprotected colonies warm up and fly while the packed ones are too cold to fly and die from cold, dysentery, and the lack of vitamin D. Of course, had my informant been a laboratory beekeeper, he would have saved the lives of the bees that perished from lack of this valuable sunlight vitamin D by feeding them a little cod liver oil so highly recommended in our good old almanacs. Still other authorities inform us that protected bees consume more stores, for they are too warm while the unprotected ones are cold and eat less.

Now, with the above information, I have arrived at some valuable conclusions: when I visit the tropics and want to keep cool, I shall wear my fur coat and eat as much as I can hold, but when I go to the North Pole I shall wear only my B. V. D.'s and eat nothing except a little snow or ice when I become uncomfortably warm. No wonder Kane, Franklin, Greely, and others had such a tough time for they took furs along to wear. Had they worn their one-piece bathing suits, they would, without question, have carved their names on the North Pole. And again they could have stayed several weeks at the pole and enjoyed themselves instead of wasting so much valuable time scratching themselves because they were so foolish as to wear red flannel underwear.

Yet another says that the unprotected bees die off faster than those that are protected which is a benefit for the protected bees build up too early in the spring, while the others do not come out so strong and are just right when the honey flow comes on. I believe there is a gem of a thought right there for that is the way the early ranchmen in the West used to make money out of cattle. There were entirely too many cattle for the range, so it was a great benefit to them not to house their cattle. If they did, too many would live through the winter; if they let them run out in the cold, many would freeze and there would be plenty of pasture for the rest.

**Suggested proper attire for a visit to the North Pole.**

So the conclusion is that you must freeze off many of your bees so that the few that come through the winter must feel as lonesome and disconsolate as we Republicans did just after the election.

Another gives winter protection by placing straw around the hives and holding it in place with poultry netting. Well, once he put the netting around and could not get any straw; his bees come out better than usual so he thinks poultry netting alone is the thing. This reminds us of Goldie of Bucyrus, who would not go out in the cold without her hair net on. Once she forgot it and caught cold and had to have her "tinsils" cut out. So now

(Continued on page 796.)

# Heads of Grain from Different Fields

**How to Eat Honey** After over 54 years of beekeeping, I have found this summer the way to eat honey. Have a small sauce dish of white clover extracted honey, or other fine flavored honey, beside your plate while eating every meal. While eating, often take a small taste of the honey, not too much. Try it and note how it works for health and pleasure.—Delbert Lhommedieu, Colo, Iowa.

**Carload Honey Burns** Fire estimated to have done $12,000 damages, destroyed a carload of honey, an extracting plant and 600 hives stored nearby, at the H. O. Newberry ranch three and one-half miles northwest of Filer, Idaho. The fire also destroyed the building in which the honey and the equipment was located, and which was a recent improvement. An overheated wax melter is considered the cause of the fire. Insurance on the destroyed property amounted to half of the total amount of loss.—Walter L. Clark, Jerome, Idaho.

**Good Crop from Bluevine** Beekeepers in southern Indiana have had the best yield of honey from bluevine or dry-weather vine in 10 years. I started extracting September 15, before bluevine stopped yielding. On September 28 I took the supers (full of honey) from 76 colonies, which I bought August 16 and left them to store fall honey below. I am sorry that our friend, J. Smith, didn't move his bees to our river bottom and get a crop of bluevine honey. This vine does not grow elsewhere. In the hill districts, bees starved at the time ours were gathering three to five pounds of honey per day. Some colonies filled five supers.—H. A. Ross, Evansville, Ind.

**League Convention in Toronto** What the coming convention of the American Honey Producers' League, to be held in Toronto, February 10-12, will mean to the beekeeping industry remains to be seen. There are matters of great importance to beekeeping which should come up for attention at that time. Subjects having to do with marketing and research on bees and honey should form a major part of this program. The interest already shown would indicate that many beekeepers from the United States and Canadian provinces will attend this convention for the exchange of ideas and suggestions for more protable beekeeping. Speakers for the meeting will be drawn largely from the membership of the organization.—J. A. Munro, Fargo, N. D.

**Support for American Honey Institute** We commercial honey producers believe that a better opportunity has never been afforded to increase the demand for honey than through the far-reaching honey publicity of the American Honey Institute. Thus far we, members of the Michigan Beekeepers' Association, are contributing $603.75 toward the Institute, but we are disappointed that other commercial beekeepers' associations in other states have not seen fit to take steps whereby their members also will pledge $1.00 per ton on all honey marketed, as we have done. This matter has been given considerable publicity in the bee journals, and the report of the Institute's finance committee at the American Honey Producers' League meeting in Milwaukee last February recommended this method of raising funds. We believe that you really appreciate the publicity honey is being given by Miss Fischer and Dr. Barnard, and we believe you should be willing to contribute, as we have, on the $1.00 per ton basis. So far some of the equipment and container manufacturers, together with leading honey bottlers, have provided 90 per cent of the money necessary to sustain the Institute's good work, but have reached the limit of what they can afford to give toward this promotion work. Present income will not keep the Institute going for many more months, and, unless the honey producers contribute a bigger part of the cost to operate, the American Honey Institute will have to discontinue its work. I shall be glad to tell how we secured our pledges, if you will drop me a line.—Russell M. Kelty, East Lansing, Mich.

Upper: Thousands upon thousands of visitors are attracted to the honey exhibit at the Ohio State Fair. Lower: The Governor of Ohio and other notables watch a honey demonstration given by Miss Fischer, of the American Honey Institute, and Miss Pickard of the Kellogg Company. In the foreground, left to right, Governor Cooper and Mrs. Cooper; Harry Silver, Secretary of State (Ohio), and Perry L. Green, director of agriculture (Ohio). Harvey Firestone, tire and rubber manufacfacturer, can be seen in the background at the right—the man with the straw hat.

# Bees, Men and Things

(You may find it here)

"That food-chamber is a very good swarm preventive, and it is easy to make increase without letting the bees swarm."—Jacob Niggeler, Hennepin County, Minn.

"We have had no honey for two years in this district on account of brush fires burning the whole district out. But the brush has recovered and I expect a bumper crop this year."—H. Combourn, Australia.

"If all beekeepers were compelled to buy a license, many small fellows would wake up and put their bees on a paying basis or go out of business, just as they choose."—Carl W. Shrum, Greenwood County, Kans.

"It looks as though Kansas City, Mo., is the dumping ground for honey from the entire west, south and middle states. Honey sells so low that its purity is questioned. Drug stores handle it and sell it from 89 cents down to 55 cents for a 5-pound pail. Some day we may see drug stores selling farming implements."—W. F. Matthes, Cass County, Mo.

"This is my second crop of honey. Four colonies last year gave me 24 gallons of honey and this year 16 gallons. Last year I saved two full supers for the bees. This year I saved five for them. The two supers saved over last year proved to be life savers. The bees were rarin' to go but there was no wood to chop."—Wesley W. Osborn, Montgomery County, Ill.

"We do our markets a very serious harm and place a large handicap thereon by letting the newspapers get hold of a lot of rot every now and then about the 'diseased condition' of somebody's old dirty bee hives. One could grow a whole saucerful of A. F. B. in the finest chinaware and never cause the disease so often imagined by the readers of our political papers."—J. H. Sturdevant, Howard County, Nebr.

"One bad thing about reading Gleanings in Bee Culture in the winter is that it makes us want spring to come sooner so we can be out among the bees. If you could invent some way whereby a beekeeper could be put to sleep in the fall and awakened in the spring, how nice it would be, especially for our wives. There would be no growling around the house about the spring being late this year and wondering how the bees are getting along during the cold weather."—E. A. Barnhart, Hamilton County, Ohio.

"Every once in a while some one says of something he eats, 'I never tasted anythings so good.' Now, of course, there are lots of good things to eat, but after all there is just one best. Allow me to tell you what it is. Take some good ripe yellow Indiana pawpaws, chop them up and put them into a bowl, cover with rich Jersey cream and, finally, pour on some liquid honey. I am telling the world it is good."—Jay Smith, Knox County, Ind.

"I have had a wonderful season with my few colonies of bees, with promise of more good things to follow. I have extracted some wonderful honey for color, density and taste. I think it was stored from a well-known tree, blue gum (not eucalyptus proper). Stringy bark and box are in bud, with blue gum still flowering. The latter seems to bloom over a period of two or three months, and the bees are very cross while storing from it."—Les Hodge, Australia.

"When the postman brought my last copy of Gleanings, the only thing I had in mind was J. E. Crane. When I saw that he had passed away, there was no surprise. When I was a child, he was writing about bees and for more years than I can remember I have turned to his page first. It is a wonder that he kept up with the times long after the others had passed on, and now in all the world there is not one to take his place."—L. A. Smith, Los Angeles County, Calif.

"I have used carbolic acid for handling bees for more than 30 years. My recipe for the solution is: one ounce Calvert's No. 5 carbolic, one ounce glycerine, six ounces water. Sprinkle the solution on a cloth by means of a feather after shaking. I use a cloth tacked on one side of a wooden roller. This is convenient for spreading on top of hives and supers and for pulling the cloth out from between supers when putting on surplus boxes. Drying the hands with the cloth prevents the bees from stinging. The cloth on the roller can be used for many purposes. It does not need to be sprinkled every time it is used."—William Hogg, Scotland.

# Just News

Editors

The Utah Beekeepers' Association will hold its annual winter meeting at Provo on December 4 and 5.

The Wyoming Beekeepers' Association will meet at Casper on December 1, 2 and 3, in the Hotel Townsend.

The Indiana Beekeepers' Association will hold its winter meeting at Indianapolis, December 11 and 12.

The annual convention of the Wisconsin Beekeepers' Association will be held in Madison, December 4 and 5.

A new bee journal in the Portuguese language published at Rua 13 de Maio N. 65, Limeira, Est. de S. Paulo, Brazil, South America, was launched in September.

The sixty-first annual meeting of the Michigan Beekeepers' Association will be held in two sections, at Saginaw on December 8, and at Adrian on December 9.

Miss Fischer gave two demonstrations a day at the honey display at the Mid-West Horticultural Exposition recently held at Shenandoah, Iowa. She also gave two radio talks on honey each day.

Mr. Klem Wilkas, Dexterville, Wisconsin, has the honor of being the first individual beekeeper not contributing through an association, to contribute to the American Honey Institute on the $1.00 per ton basis.

The Liquor Control Board of Ontario, Canada, has asked amendment of the provincial liquor act to permit the substitution of honey for sugar in the manufacture of wine, as a means of using the surplus honey produced in the province instead of imported sugar.

The United States Civil Service Commission announces examinations for an Associate Physiologist in Apiculture and an Associate Technologist in Honey, applications to be on file with the Civil Service Commission at Washington not later than December 10, 1930.

A short course in beekeeping will be given by Purdue University during the annual agricultural conference on January 12, 13 and 14, 1931. Prof. R. H. Kelty of the Michigan Agricultural College, and Prof. Paddock of the Iowa Agricultural College, will assist in this short course.

The Twenty-ninth Annual Report of the Illinois State Beekeepers' Association for the year 1929, recently issued, is a book of 196 pages. In addition to the items concerning the affairs of the association, the report contains a large number of valuable papers read at the last annual meeting.

At the recent meeting of the Iowa Beekeepers' Association, members present subscribed about $250 for the support of the American Honey Institute. The amounts subscribed were on the basis of $1.00 per ton of the season's honey crop, the plan adopted by the Michigan Beekeepers' Association last year.

The University of Illinois has recently published a bulletin entitled, "Use of Honey in Ice-cream Manufacture," by P. H. Tracy, H. A. Ruehe and F. P. Sanmann. It contains a summary of a vast amount of research work in the use of honey in ice cream and gives formulas for making honey ice cream commercially.

The North Dakota State College of Agriculture at Fargo, North Dakota, is offering a home-study course in practical beekeeping. The course is designed for beginners rather than experts. This as well as other home-study courses are free except for the cost of material used. Students are enrolled from every state in this country.

The Quarterly Bulletin of the Agricultural Experiment Station, Michigan State College of Agriculture, East Lansing, Michigan, for May, 1930, contains an article, "Honey May be Used in Ice Cream," by Prof. P. S. Lucas of the Dairy Section. Prof. Lucas shows that the cost of honey-made ice cream compares favorably with that of ice cream made with sugar.

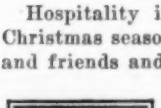
The University of Manitoba at Winnipeg, will give its ninth annual winter short course in beekeeping, January 19 to 30, 1931. The topics in this short course cover the entire field of beekeeping, especially as applied to Manitoba conditions. It is expected that the Manitoba Beekeepers' Association will convene immediately at the close of the short course, thus giving the students an opportunity to attend the convention.

# Food Department

Malitta D. Fischer

## Honey for Christmas

Hospitality is at its best during the Christmas season. Many keep open house, and friends and neighbors visit from one home to another. Refreshments of cakes, cookies and fruit punches are always served. And when such refreshments are honey-made, they are really good and satisfy.



Honey rightfully belongs in your Christmas food. Christmas is one of the oldest customs and honey is our oldest sweet so, of course, they belong together.

But before I give you a few Christmas-hospitality menus, I want to discuss the adaptation honey has for the Christmas boxes.

Little Christmas remembrances of home-made honey candies (when they contain honey they have that real good "home-made" taste) will be welcomed by many of your friends. Let the children help—gather them together some afternoon or evening. A real pre-Christmas party will result, and when the party is over you have delicious honey candies made and packed for your gifts.

In addition to honey candies for your holiday packages, add sparkling honey jellies, tasty honey cookies, honey fruit cake mellowed and full of fruit flavor (no synthetic flavors, just natural ones), honey popcorn balls, little jars of honey, and combs of honey. What could be more unique than a package of this type? Your friends will marvel at the contents of such a box and then later in January when you send them the recipes for these goodies and inform them that they too can make them if they will use honey, won't they be surprised and appreciative! I know they will for I have tried it on my own friends.

Really now nothing makes a more personal gift than a gorgeous box of these choice delicacies that you yourself have brought to perfection. And, when first attractively wrapped in cellophane, daintily tied in gay Christmas wrappings, carefully packed in lithographed boxes, what more desirable gift can any one possibly receive?

In packing for shipment through the mails, two good rules to remember are: first, pack flat, and second, keep packages from jostling one another in transit. Each layer should be kept straight, even, and flat by laying thicknesses of paper over the packages, if necessary. Prevent jolts and breakage by keeping each package firmly placed. Stuff crumpled paper into the cracks and crannies as this protects the boxes from colliding with one another.

By means of cellophane we are able to protect comb honey, honey fruit cakes, honey cookies, and honey candy perfectly and still leave them visible. I am informed that cellophane is made from the purest form of vegetable matter in the world. As a wrapping it protects against all kinds of dust and dirt. It keeps things fresh. Yet you can see all it covers just as if there was no wrapping at all. No guessing what's inside the package.

I love to wrap the little jars of honey in various colored cellophane. They look so attractive and one or two of these (which cost the beekeeper only a few cents) would really thrill the local home economics teacher. Why not let your youngsters present each one of their teachers with such a Christmas remembrance? And if you want to make them exceptionally nice tie them with ribbon like the Colorado Honey Producers' Association did for the American Home Economic Association favors. They looked so nice—you have to see them to appreciate their appearance. I can't describe them.

## Christmas Open House Suggestions

### Menus

Honey cider punch, honey all-bran spice cookies, honey snow balls, honey lemon julep, honey almond fingers, honeyed fruit strips, honey tea, honey pecan toast strips, mixed honey fruit salad, honey fruit mousse, honey tea cookies, honeyed popcorn.

### Recipes

**Honey Cider Punch**—2 packages Royal Cherry gelatin, 1¾ cup boiling water, 3½ quarts cider, ½ cup honey, 1½ cups water, 1-inch stick cinnamon, juice 4 lemons. Dissolve the Royal Cherry gelatin in the boiling water; and add to the cider and lemon juice. Add the honey. Boil the water and cinnamon stick together for three minutes and add to the first mixture. Chill and just before serving add cracked ice and cup of diced honeyed orange strips.

**Honey All-Bran Spice Cookies**—¼ cup short-

ening, ¾ cup honey, 1 egg (beaten), 1 cup Kellogg's All Bran, 1½ cup flour, ½ teaspoon cloves, 1 teaspoon cinnamon, 1 teaspoon baking powder, ¼ teaspoon soda, 1 cup chopped raisins. Cream honey and shortening. Add egg. All Bran, sifted dry ingredients and raisins. Drop by teaspoonfuls on a greased baking sheet, keeping them 2½ inches apart. Bake in a moderate oven (400° F.) about 30 minutes. Yield: 2 dozen cookies 3 inches in diameter.

**Honey Snow Balls**—Stone ¾ pound of dates and put them through the food chopper alternately with ¾ cupful of shelled walnuts. Add 2 tablespoons honey and ¼ teaspoonful salt. Shape into small balls about the size of butter balls. Roll in cocoanut.

**Honey Lemon Julep**—1½ cups honey, 1 quart of water, 1 cup water, few leaves of mint, juice of 4 lemons and 2 oranges. Simmer honey, water, mint leaves. Let come to boiling point. Remove mint and cool, add lemon juice and orange juice. Add water. Serve with ice and sprig of fresh mint.

**Honey Almond Fingers**—Cream together ½ cupful butter and ½ cupful honey. Add 2 beaten egg yolks, 1 cupful pastry flour, 1½ cupful finely chopped almonds. Mix thoroughly. Shape the dough into rolls about 3 inches long and as thick as a finger. Brush with honey and bake at 400° F. about 15 minutes.

**Honeyed Fruit Strips**—Remove peel from 3 oranges and cut in strips. Cover with water to which 1 teaspoon salt has been added. Boil 30 minutes. Drain. Cover with fresh water and boil till peel is tender. Drain and pour over enough honey to cover usually from ¾ cup to one cup. Let simmer very slowly until fruit peel is clear—about 45 minutes. Lay on waxed paper and let stand two or three days before using. Variations: Grapefruit peel or lemon peel may be prepared in the same manner. Roll the strips of honeyed peel in shredded cocoanut or chopped nuts and serve as a confection. Coat the honeyed peel with dipping chocolate and place four or five of these bean-like appearing confections together and wrap in cellophane, tying with colored ribbons. A very attractive addition to any candy box. Make orange nut bread with the honeyed orange peel. Chop up and use in honey cookie mixtures. Chop in pieces and sprinkle over honey pound cake topped with honey meringue. Use in your honey lebkuchen.

**Honey Tea Cookies**—Melt over fire one-half cup butter and stir into it one pound of honey and about one-half of a small nutmeg grated and the grated rind of two small lemons. Stir all together while over the fire, until well mixed, then let cool, place in refrigerator for fourteen hours. Add enough flour to make a soft dough, about two cups will be about right with baking powder added in the proportion of a single teaspoonful to a cup of flour. Roll lightly to one-fourth inch thick, cut in squares, triangles, or round, sprinkle tops with chopped almonds, and bake at 400° F. until done. Serve cold with tea or supper. These little cakes keep fresh for ages if stored in a covered box.

**Honeyed Popcorn Balls**—Without honey popcorn balls, the holiday confection assortment would not be complete so far as the children are concerned. Honey can be heated up to about 245° F. without being greatly changed. If it is heated carefully most of the water is expelled. The honey then becomes hard on cooling and can be used for making popcorn balls. Dip the popped corn into the hot honey, shape into balls and cool. Wrap them in waxed paper and before packing in colored cellophane papers.

**Honey Candies**—Without a generous supply of home-made candies, Christmas is indeed incomplete. The candies that taste the best are the kind that satisfy the best, the honey kind that mother and sister make. The flavor of honey in candy plays a very important part in intensifying that candy taste we all like. Your candies, whether fudge, chocolates, or nougats, make a favorable impression upon the palate through the sheer deliciousness of that piece of goods, and this deliciousness comes through the proper blending of materials. In candies particularly does honey blend most perfectly to produce fine flavors. The simplest of all candies when made with honey are out of the ordinary.

**Honey Fruit Balls**—Run any dried fruits through food chopper—prunes (uncooked), apricots (uncooked), dates, figs, raisins, peaches or pears. A very good combination is ¼ cup prunes, ¼ cup apricots and ½ cup dates, or ¼ cup figs and ¼ cup raisins. Nuts may be included. Add just enough honey to hold together. Butter the hands and shape into balls. Roll in chopped nuts or cocoanut.

**Honey Fudge**—2 cups sugar, 1 cup evaporated milk, 1 square chocolate (cut fine), ¼ cup honey, ¼ teaspoon salt, 1 cup nuts. Boil sugar, chocolate, salt and milk 5 minutes. Add honey and cook to the soft ball stage (235° F.) Add butter. Let stand until perfectly cool. Then beat until creamy. Add nuts, pour on buttered pan, and when hard cut in squares. Fudge of standard quality should be of a very smooth texture, not in the least granular and soft enough to cut into pieces without breaking. The pieces should be from one-half to three-fourths of an inch thick. The use of honey is advisable because it gives the fudge a smoother texture and will aid in keeping it moist. The temperature at which fudge is beaten is a very important factor. Large sugar crystals will form and the fudge become grainy if stirred while hot. Always allow to cool—then the crystals will be small and the fudge creamy.

**Honey Divinity**—2 cups sugar, ½ cup honey, ¼ cup water, 2 egg whites, pinch of salt. Boil together the sugar, honey and water until the syrup spins a thread when dropped from a spoon (about 250° F.). Pour the syrup over the well-beaten whites of the eggs, beating continuously and until the mixture crystallizes. Drop in small pieces on waxed paper.

**Honey Bittersweets**—Let a section of comb honey remain in the refrigerator about 24 hours before using for coating. Then dip the knife to be used for cutting in boiling water. Cut comb honey into pieces about ¾ of an inch long and ⅜ inch wide. Place pieces on trays covered with waxed paper and chill for thirty minutes before coating. Be sure dipping chocolate is of proper temperature and then coat candy pieces just as in coating cream centers. Drop a walnut, pecan or almond on each piece. It requires a little practice to be able to turn out honeyed bittersweets that do not develop many honey leaks but you will find that one or two of these unusual chocolates packed in your candy boxes will indeed delight the receiver.

**Honey Cornflake Macaroons**—While many think of macaroons as cookies, they are really as delightful as any confection. Try this recipe and be convinced. 1 egg white beaten very stiff. Add ¼ to ⅓ cup of honey slowly and beat while adding until meringue is stiff. Into this stir 2 cups Kellogg's Corn Flakes, ½ cup chopped almonds and 1 cup shredded cocoanut. Drop by spoonfuls (use tablespoon of measuring spoon set because bowl is deep) on cookie baking sheet and bake until done, using a moderate oven (about 15 to 20 minutes).

Christmas giving does not necessitate the exchange of expensive gifts. There is charm in the carefully cooked home-made gift, daintily packed. It represents time and thought, and is always received with appreciation.

Beekeepers and your "women-folks" please give honey and honey-way foods this year for Christmas.

A Merry Christmas to you all.

# Gleaned by Asking

Geo. S. Demuth

**Extracting Honey Without an Extractor**

Question.—How can I extract the honey from my one colony without spoiling the combs and without an extractor?—Joe Bader, Illinois.

Answer.—There is no way known of extracting honey from combs without injuring them except by means of centrifugal force, as in the honey extractor. You can get most of the honey out by slicing the combs down to within about one-eighth of an inch of the septum, then draining the sliced-off portion and also the remainder of the comb in the frame, doing this in a warm room. By leaving the cells at least one-eighth of an inch deep, the bees will quickly rebuild the cell walls if these combs are given back during a honey flow.

**Food Chamber Above Excluder**

Question.—Will the bees get the honey from the food chamber if a queen excluder is between the brood chamber and the food chamber? I want to keep the queen out of the food chamber by means of the excluder if the bees can get the food and bring it down through the excluder.—J. B. Blosser, Michigan.

Answer.—Instead of carrying the honey down from the food-chamber through the excluder, the cluster gradually moves upward and envelops more honey as it is used. There have been cases of very weak colonies moving upward through an excluder during winter, leaving the queen to perish below. However, with strong colonies well provisioned, this would not occur. Most beekeepers remove the excluder in the fall. Even if the brood is extended into the lower portion of the food-chamber in the spring, no harm is done.

**Modifying Color of Honey**

Question.—What is used for coloring honey to be sold in glass?—Henry Lind, New York.

Answer.—Packers bring about the desired color by blending honey of different colors. There is such a wide variety of colors of honey produced in this country that packers are able to put up honey having the same appearance in glass year after year by blending. A standard flavor is also obtained in the same way.

**Making Honey Butter**

Question.—Please send instructions for making honey butter.—E. D. Green, Ohio.

Answer.—If by the term "honey butter" you mean a combination of honey and butter, this can be made for home use simply by warming the butter to make it soft enough to work, mixing with it an equal volume of honey, then cooling it to cause it to become firm. Such a mixture must be kept in a cool place since otherwise the honey and butter will separate. The honey butter that is being put out by some of the large creameries is made by a secret process. If you have in mind what is sometimes called cream of honey, this is made by running granulated honey through a grinder to crush the crystals. This gives it a fine, creamy appearance. Similar results can be brought about by stirring the honey at frequent intervals during the process of granulation, thus breaking up the crystals so that the product has a creamy appearance.

**Keeping Bees Near Orchards**

Question.—Before I engage in the bee business, I would like to know if there would be any danger of my bees getting poisoned by visiting orchards where various sprays are used.—C. A. Row, Oklahoma.

Answer.—When the spraying is done at the proper time, there is practically no loss of bees by poisoning; but if the spray is applied while the trees are in full bloom, as is done in some cases, many bees are killed. In the case of dusting instead of spraying, the dust sometimes drifts to adjacent fields where honey plants may be in bloom, and the bees in great numbers are sometimes killed in this way. When the orchardist does not apply the spray until after 90 per cent of the petals are down, there is, under ordinary conditions, no perceptible injury to the bees; but in large commercial orchard regions there is danger of the bees being poisoned by spraying some trees too early, unless the orchardist is willing to co-operate with the beekeeper and apply the spray at the right time in the right manner to prevent killing the bees. Since the bees are necessary for proper pollination of the orchard, the orchardist should always be willing to co-operate in this way.

**Bees Leave Hive During Cold Weather**

Question.—On quite cold days some bees come out, fall in the snow, and die. I never see any of them get back into the hive. Is this natural or have I packed the hives too warm?—Frank Vert, Michigan.

Answer.—Bees that leave the hive when it is too cold for them to fly safely this early in the winter are, in most cases, old bees that leave the hive to die. In colonies that have a large proportion of old bees at the beginning of winter, this is quite normal and need cause no alarm. Later, after the bees have been confined to their hives for some time, some of them may leave the hive as you describe as a result of consuming a poor grade of honey

during cold weather when they can not take cleansing flights. The bees then become quite restless, raise the temperature within the hive by their exertion, and wear themselves out rapidly. This condition does not occur, as a rule, until February unless the stores are unusually poor. Bees regulate the temperature within the hive, or, rather, within the cluster, to suit themselves regardless of the amount of packing used. When the hive is heavily packed, they simply generate less heat since the heat is not lost as rapidly as when the hive is poorly packed.

**Chinese Vitex Trees**

Question.—What is your opinion of the Chinese vitex as a honey plant?—J. Hauck, Missouri.

Answer.—The Chinese vitex tree was recently introduced into the United States by the Bureau of Plant Industry. It has a long period of bloom and reports indicate that it yields nectar freely. It is said to be especially adaptable to conditions in the southwestern states where it is being grown to some extent in an experimental way. If sufficiently abundant in parts of the country favorable to its growth, it would no doubt be an important honey plant.

Question.—Some of the honey that was stored here this season was bitter and not salable. Can you tell me what this bitter honey comes from?—Garland Hardison, North Carolina.

Answer.—One source of bitter honey in several of the southern states is bitterweed. Honey from this source alone is so bitter that it can not be eaten, and if it is mixed with honey from other sources it renders the honey unsalable on account of its extreme bitter taste. Another source of bitter honey is chinquapin. Honey from these two sources is usually kept separate, and is used for feeding bees during the spring brood-rearing period. It appears to be entirely satisfactory for this purpose.

**Preventing American Foul Brood**

Question.—When American foul brood is discovered in a neighborhood, what can be done to prevent one's bees from getting it?—A. P. Tucker, Illinois.

Answer.—One of the first things to do is to get the beekeepers of the locality together to make an investigation to learn where the disease exists. The beekeepers of the locality should then immediately delegate some one to write for the group to the state inspector of apiaries, asking him to visit the locality and clean up the disease before it spreads to other apiaries. The name and address of the various state inspectors are given on our "Who's Who" page in the May, 1930, issue of this journal. The diseased colonies in the neighborhood should then be disposed of according to the directions of the inspector. In case it is impossible for the inspector to visit the locality at once and only a few colonies are found in the neighborhood, these should be disposed of without delay in accordance with the inspector's written directions.

**Honey for Automobile Radiators**

Question.—Has the use of honey ever been found satisfactory in automobile radiators as an anti-freeze solution?—Ralph M. Musser, West Virginia.

Answer.—Several years ago many tried a mixture of honey and water in various proportions according to the climate of the locality. Some were pleased with the solution while others experienced difficulty. The chief difficulty is that a very heavy solution, made of equal parts of honey and water for very cold climates, fails to circulate properly until the motor has warmed up. Another difficulty is that if the cooling system has a leak, the honey solution messes things up. However, a mixture of honey, alcohol and water, when properly used, gives good results as an anti-freeze mixture. The honey prevents to a large extent the evaporation of the alcohol, so that it is not necessary to add alcohol at frequent intervals during the winter as is the case when alcohol and water alone are used. A mixture of equal parts by volume of honey, alcohol and water, makes a good anti-freeze solution provided the cooling system is tight throughout.

**Tough Combs in Sections**

Question.—What could cause the comb in sections of comb honey to be tough?—Paul A. Wells, Ohio.

Answer.—If brood has been reared in sections as sometimes happens (especially when narrow starters are used in the sections instead of full sheets of foundation resulting in drone comb below the starter) the comb may be filled with honey after the brood emerges, in which case it would be tough on account of the cocoons left in the cells by the young bees. Such comb honey would not be marketable. There is quite a difference in the quality of the comb in comb honey, depending on the character of the honey flow and weather conditions. Sometimes the comb is exceedingly delicate and fragile, the minimum amount of wax being used; under other conditions, the comb may be described as somewhat tough owing to the larger amount of wax used. As a rule, the comb is more delicate when built during a heavy honey flow than when built during a slow honey flow.

WELL TO TELL YOU THE TRUTH I DIDN'T THINK ABOUT PACKING MY HIVES, BESIDES, THIS MIGHT BE A MILD WINTER AND AGAIN IT WOULD HAVE TAKEN TOO MUCH OF MY TIME!
BUT DON'T PITY THIS CHAP THIS SPRING IF IT HAPPENED TO BE A HARD WINTER — SOME HAVE TO LEARN FROM EXPERIENCE!
WILLIAM DWYER

# *Sell and Buy Here*

## CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

### HONEY FOR SALE

"We do not guarantee the reliability of honey sellers, although we require strict references from them."—From Our Guarantee and Advertising Conditions.

STURDEVANT clover honey, St. Paul, Nebr.

CLOVER extracted. F. W. Lesser, Fayetteville, N. Y.

FOR SALE—Finest quality clover honey. Lewis Klaty, Carsonville, Mich.

WHITE clover comb, fancy and No. 1 white. F. B. Sherman, Edgerton, Wis.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CARLOAD of clover honey, cheap. John Burghardt, Grand Island, Nebr.

STEWART'S honey. Sample and prices free. Henry Stewart, Prophetstown, Ill.

CLOVER HONEY—Comb and extracted. Dr. E. Kohn & Son, Grover Hill, Ohio.

FOR SALE—Delicious table honey in barrels. P. W. Sowinski, Fort Pierce, Florida.

CHOICE clover honey, in 5-lb. pails, 60-lb. cans. C. J. Baldridge, Kendaia, N. Y.

FOR SALE—Clover basswood honey in 60-lb. cans. J. W. Grady, Orchard Park, N. Y.

1930 CROP finest white clover extracted honey. Write Stoller Apiaries, Latty, Ohio.

WHITE clover extracted honey. Write for prices and sample. Kalona Honey Co., Kalona, Iowa.

HONEY—New York State extracted white clover, 60-lb. can, $6.00. J. G. Burtis, Marietta, N. Y.

HONEY — Clover, clover-basswood, buckwheat, 60-lb. cans. Henry Williams, Romulus, N. Y.

HONEY FOR SALE, any kind, any quantity. The John G. Paton Co., 217 Broadway, New York City.

OHIO'S finest extracted white clover honey. Prices on request. Sample, 15c. Geo. Morrison, Cloverdale, Ohio.

FOR SALE—Extra choice white clover honey, case or carload. Also amber. David Running, Filion, Mich.

FOR SALE—White clover honey in 60-lb. cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

HONEY FOR SALE—All grades, any quantity. H. & S. Honey & Wax Company, Inc., 265 Greenwich St., New York City.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. E. J. Stahlman, Grover Hill, Ohio.

FOR SALE—White clover honey, 9c per lb. in 60-lb. cans. 12—5-lb. pails, $7.25. Sample, 15c. Jos. H. Hoehn, Ottoville, Ohio.

FOR SALE—Three cars white and light amber in 60-lb., 10-lb. and 5-lb. tins. Write for prices. Dadant & Sons, Hamilton, Ill.

FOR SALE—A-1 diamond clear clover extracted honey, new crop, $9.00 per case, 120 pounds. Virgil Weaver, Moville, Ia.

FOR SALE—Michigan finest white clover honey, in new cans and cases. Sample, 15c. C. E. Glover, Kalamazoo, Mich., R. R. 6.

FOR SALE—Clover honey, one case, 120 lbs., $12.00; 5 cases, $56.00; 10 cases, $106. Fred. Leininger & Son, Delphos, Ohio.

FOR SALE—New crop clover basswood honey in new cans, case lots, 9c; ton, 8½c. Leroy C. Keet, 1003 Leroy St., Watertown, N. Y.

FINEST quality clover-basswood extracted honey, packed in new cans and cases. Write for sample and prices. Gelser Bros., Dalton, N. Y.

FOR SALE—White clover comb, 4¼x4¼ sections; and extracted in 60-lb. cans. Also buckwheat in 60-lb. cans. C. Holm, Genoa, Ill.

HEAVY bodied, water-white sweet clover honey, in case or carlots. Sample, 10c. C. S. Engle, 1610 4th Ave., South, Fargo, North Dakota.

DELICIOUS honey, light sweet clover or the heartsease, 10c per lb. in 60-lb. cans; 10-lb. pails, $1.50. Arthur Thayer, Superior, Neb.

NEW crop clover-basswood honey in new 60-lb. cans, and 5-lb. pails; also buckwheat in kegs and 60-lb. cans. H. B. Gable, Romulus, N. Y.

OUR fifty-second annual honey crop now ready. A case or a car of Michigan clover extracted honey in new 60's. J. N. Harris, St. Louis, Mich.

WRAPPED comb honey, white, $4.50; buckwheat, $3.75; 24 boxes. Ask for prices on buckwheat in kegs or 60-lb. tins. Albert Borning, Interlaken, N. Y.

CLOVER-BASSWOOD blend in new cans and cases. Carlots or less, also buckwheat honey in kegs and cans. Sample on request. B. B. Coggshall, Groton, N. Y.

FOR SALE—A-No. 1 white clover basswood blend extracted honey, 120 lbs. per case. State quantity wanted and I will quote price. Leonard S. Griggs, 711 Avon St., Flint, Mich.

RASPBERRY HONEY—In new 60-lb. cans, for 11c a lb. In 10-lb. cans, by mail or express postpaid, for $2.50 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

FOR SALE—New crop, raspberry and basswood blend honey in new 60-lb. cans, heavy body and a very fine grade. $10.00 per case of 2—60-lb. cans. Earl L. Baker, Lake City, Mich.

NEW CROP SHALLOW FRAME COMB HONEY, also section honey, nice white stock, securely packed, available for shipment now. Colorado Honey Producers' Association, Denver, Colo.

WE are now shipping new crop clover extracted honey. New cans with 2½-inch screw caps. Of course, it's "Townsend Quality." Say how much you can use and we will be pleased to quote you our best price. E. D. Townsend & Sons, Northstar, Michigan.

CLOVER extracted. Case or carload. Oscar Schmidt, Rt. 5, Bay City, Mich.

FOR SALE—Extracted honey. Samples free. Jay Smith, Route 3, Vincennes, Ind.

CLOVER honey, 7c; fall blend, 6c. Samples, 15c each. Edward Klein, Gurnee, Ill.

WHITE comb honey wrapped or plain, 4 grades. W. L. Spink, Varysburg, N. Y.

CLOVER-BASSWOOD blend and amber extracted honey. Geo. M. Sowarby, Cato, N. Y.

WHITE comb fancy sweet clover honey, case 24 sections, $3.85. Marsalek Apiaries, Cadams, Nebr.

CLOVER-BASSWOOD blend and amber extracted honey. Leroy R. Bradley, Meridian, N. Y.

70 cases clover-basswood at 9c; 20 cases buckwheat at 8c. New cans, cases. A. J. Wilson, Hammond, N. Y.

CHOICE clover and basswood blend extracted honey in sixties; also light amber. Leland Farnsworth, Davison, Mich.

BUCKWHEAT honey in 60-lb. cans, 8c lb.; clover-basswood, 9c; also 5-lb. pails. Wendell Botsford, Horseheads, N. Y.

GOOD HONEY—What offers for 34 light and 18 amber 60-lb. cans? Edwin Ewell, 115 Hawkins St., Ypsilanti, Mich.

RASPBERRY blend, 60-lb. cans, 2 in case, $10.00; ton lots, 8c; 5-lb. pails, 12 in case, $6.00. Grant Watts, Boyne City, Mich.

FOR SALE—New York State light honey of finest quality, 9½c per lb., in 60-lb. cans. Sample, 15c. H. J. Avery, Katonah, N. Y.

NEW crop clover-basswood blend honey packed in new 60-lb. cans. Write for prices. Sample, 10c. Meyer Toom, Knoxville, Iowa, Route 4.

SIXTY CASES of buckwheat honey in new sixties, at $8.50 case. Quality guaranteed. W. Keyser, 242 Union St., Schenectady, N. Y.

COMB HONEY, amber and mixed amber. Special price on this lot. Also small amount buckwheat comb. Noel J. Loucks, Springboro, Pa.

FOR SALE—Nice quality clover-basswood honey. Case lots, 9c. Write for prices on large lots. E. E. Hutchins, 39 George St., Massena, N. Y.

NEW CROP clover-basswood blend honey in new 60-lb. cans; also buckwheat in kegs and 60-lb. cans. Write for price on case or carlots. E. L. Lane, Trumansburg, N. Y.

EXTRA fine water-white extracted honey, 8½c; ton, 8c. Heavy fancy white comb, $4.00 per case. You won't get stung if you buy my honey. Howard Grimble, Holcomb, N. Y.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails our specialty. A. I. Root Co. of Syracuse, 124 Williams St., Syracuse, N. Y.

CLOVER-BASSWOOD blend, also straight buckwheat, and some mild buckwheat, that is blended with sweet clover. All of superior quality, packed in 60-lb. cans. Earl Rulison, R. D. 1, Amsterdam, N. Y.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

COMB and extracted honey, chunk honey, extracted honey in 10 sizes of glass, 2½, 5, 10 and 60-lb. tins. Livest labels in U. S. or plain. Special combination sales case free with $25.00 and $50.00 orders. Write for free samples, prices and illustrated circular showing our packages. Griswold Honey Co., Madison, Ohio, U. S. A.

HONEY—Clover extracted in new 60s. Wes Johnston, Port Hope, Mich.

CHOICE white clover extracted honey, any quantity. Jay Cowing, Jenison, Mich.

BEST northern Michigan honey, car or less, priced to sell. George Jaquays, East Jordan, Mich.

FOR SALE—Clover-basswood blend in 60-lb. cans and buckwheat in 165-lb. kegs. Write your needs and I will quote low price. Sample, 10c. N. L. Stevens, Venice Center, N. Y.

NO. 1 clover comb honey, $4.50 per case; No. 2 clover, and amber too dark, $3.50 per case; 25 case lots, 5% off; 50 case lots, 10% off. Clover extracted in 60-lb. cans, 9c. H. G. Quirin, Bellevue, Ohio.

FOR SALE—No. 1 white comb, $4.25; light amber comb, $3.75; fancy buckwheat comb, $3.50 per case of 24 boxes, packed in carriers of 6 cases. White extracted, 8c lb.; buckwheat extracted, 7c lb. in 60-lb. cans. Carlton D. Howard, 50 Lafayette Ave., Geneva, N. Y.

HONEY—We sell the best. Comb in carriers of eight cases each—extracted, basswood, buckwheat, sweet clover, white clover and light amber. Tell us what you can use for prices. A. I. Root Company of Chicago, 224-30 W. Huron St., Chicago, Ill.

FANCY white comb, $4.50 case; No. 1 white, $4.00; No. 2 white, amber, or buckwheat, $3.50, 1930 crop. Have some 1929 crop at 50c per case less, which is in good condition. Clover extracted, 8½c; buckwheat, 8c, in 60-lb. cans. C. B. Howard, Geneva, N. Y.

## HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—All our honey-producing friends should take note of the following from the "Guarantee and Advertising Conditions" of Gleanings in Bee Culture: "We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the seller."

HONEY wanted in exchange for package bees. Carload or less. Herron & Stone, Millerton, Okla.

WANTED—Car-lot of white and extra light amber clover honey. Duvale Brown, Long Branch, N. J.

HONEY WANTED—Will exchange package bees for white honey or will pay cash. A. W. Nations, Donna, Texas.

WANTED—Clover honey in any quantity, extracted. Send sample and lowest cash price. F. M. Babcock, Fredonia, N. Y.

HONEY WANTED—White clover and buckwheat extracted. Submit sample and price. Roscoe F. Wixson, Dundee, New York.

WANTED—Car lots of honey. State quantity, shipping point, and price. Mail sample. Hamilton, Wallace & Bryant, Los Angeles, Calif.

WANTED—A car or less quantity of white honey, in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, Birmingham, Mich.

WANTED—Shipments of old combs and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendered. The Fred W. Muth Co., Pearl and Walnut Sts., Cincinnati, Ohio.

WANTED—Melezitose honey. A type of honey gathered by the bees from an exudation on scrub pine or Douglas fir trees, which crystallizes in the comb within a few days after storage. For further particulars, write Digestive Ferments Company, 920 Henry St., Detroit, Mich.

## FOR SALE

B-SHIPPING CAGES, "Standard" and others, made to order. Dr. Stiles, Box 422, Houston, Texas.

MAKE queen introduction SURE. One SAFIN cage by mail, 25c; five for $1.00. Allen Latham, Norwichtown, Conn.

FINEST quality, large dark northern penbred mink for breeding purposes. None better in the Northwest. We invite your inspection. Black Beauty Fur Farm, Grand Meadow, Minn.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M 53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

## BEE SUPPLY SPECIALTIES

METAL EYELETS in your frames will stop the WIRE SAG which is responsible for most SAGGED COMBS. METAL EYELETS, per 1000, 60c. Handy tool for inserting eyelets, 25c; postage, 3c per 1000. Superior Honey Co., Ogden, Utah.

## BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from disease, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or, it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

TESTED Italian queens, $1.00 each; 12 for $10.00. Ship now anywhere. D. W. Howell, Shellman, Ga.

VITEX trees for sale, 30 to 36 inch trees, 50c postpaid. State inspected. Joe Stallsmith, Galena, Kans.

SCIENTIFICALLY line-bred Italian queens throughout the year. HONEYVILLE QUEEN APIARIES, Rt. 1, Monrovia, Calif.

TWO bee men in southern package belt wish to buy large bee outfit in midwestern clover belt. Gleanings, Box 71, Medina, Ohio.

PACKAGE BEES—For April and May delivery. Write for price, guarantees, etc. The Crowville Apiaries, Rt. 1, Winnsboro, La.

1931 Caucasian queens from best imported breeders. Price list and circular on request. Lewis & Tillery Bee Co., Greenville, Ala., Rt. 6.

COLONIES IN CAGES on combs at low price. No disease and safe arrival guaranteed. Inquire particulars. Dr. Stiles, Box 422, Houston, Tex.

FOR SALE—TWIN-DEL QUALITY QUEENS and ROOT QUALITY BEEKEEPERS' SUPPLIES. Prompt service. W. G. Lauver, Middletown, Pa.

FOR SALE—30 colonies Italian bees equipped for extracted and comb honey. Supplies for 30 more. Guaranteed free from disease. J. Kennedy, Jamestown, Ala.

BEE SUPPLY SALE—Best quality standard bodies with frames, lots of 50, at 90c each; Jumbo, $1.00; Hoffman frames, $37.50 per 1000. All equipment new, satisfaction guaranteed. We make prompt shipment. Send for free price list today. The Northern Bee & Honey Co., North St. Paul, Minn.

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(Advertisements under this head inserted for individuals only, not for real estate agencies. Individuals advertising in this department must give bank references.)

FOR SALE—6-room house with 14 acres at Fairhope, Baldwin County, Ala. Fine location, fronting on Mobile Bay. Ideal place for poultry and bees. M. Michaels, Fairhope, Ala.

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FOR EXCHANGE—Good used cans. Cash or honey. E. W. Peirce Co., Zanesville, Ohio.

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MAKE money selling honey. Write for details. Jessup Honey Farms, Carmel, Indiana.

DRY weather-vine. Honey finest produced, does not granulate. H. A. Ross, Evansville, Ind.

A BUSINESS of your own from your home for men or women. Steady employment. Home made candies in demand all seasons. Delicious flavors cause people everywhere to crave candy. Few dollars starts you, big cash profits first week. Secrets of this fascinating business taught by mail by successful manufacturer. Free illustrated booklet. Capitol Candy School, Desk J-2275, Washington, D. C.


# Root Queens and Bees

**This is simply to remind beekeepers everywhere that we intend to continue producing and selling queens and bees next season. It is our aim to furnish the best stock obtainable. Good queens mean much in securing the maximum honey crop. Prices will be announced later.**

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Medina, Ohio

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Booking orders for 1931

Our old reliable 3-banded Italians have a reputation. They satisfy. Circular free.

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723 C St. Corpus Christi, Texas

# Get Running's Bees

**And Get Honey—They Satisfy**

PACKAGES and NUCLEI

The kind WE use in our extensive Michigan Apiaries, where WE produce honey by the carload.

ALL ITALIAN STOCK

Service guaranteed. Stock bred for honey-getting and gentleness. PRICES RIGHT. Let us name you prices on any quantity.

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Mangham Louisiana

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**POULTRY PAPER 12 BIG ISSUES 25c**

Paste or pin this ad on a letter with your name and address and mail it to us with **25c.**, (stamps or coin) for the next **12** issues. **American Poultry Journal**
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We have wound up a very successful season and wish to thank our patrons for the same. We shall be in the market for 1931 with bees in 2-lb. packages with queen for $3.00.

Booking orders now for 1931 delivery.

WARNER & JONES
HAMMOND,
LA.

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Shall price or quality be your guide? We combine both and spare neither labor nor expense to give you the best quality and service at a price that will please you.

We are booking orders now for high-grade Italian bees and queens for spring delivery. Attractive prices on early orders. Let us quote you on any quantity. You can not buy better bees or queens. Satisfaction guaranteed.

If in need of queens now we can furnish at $1.00 each.

Lewis Beeware and Dadant's Wired Non-Sag Foundation.

**York Bee Company**

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Italians

Nuclei,

Queens

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Orchard Packages

Are you satisfied with average yields, or do you want to harvest bumper crops?

One customer reports 39,000 pounds from 105 colonies, some wintered over some package bees, all headed with our queens.

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**The Crowville Apiaries**

J. J. Scott, Prop.

Winnsboro, La., Rt. 1

# Jensen's 1931 Package Bees and Queens

## PURE THREE-BANDED ITALIANS ONLY

We thank you for your valued patronage the past season. Your confidence in our ability to serve you; your appreciation of good stock, reasonable prices, prompt shipments and service aimed to please, has enabled us to increase our capacity over 266 per cent in the past two years. WHAT IS THE ANSWER?

We here and now solicit the continued patronage of all our old customers, and any others who want the very best in packages and queens.

"It's a privilege to support the American Honey Producers' League and Kellogg's."

The coupon below brings our prices, quantity and early order discounts, and other information.

**JENSEN'S APIARIES, CRAWFORD, MISS.**

Home of "Magnolia State" Bees and Queens

COUPON

Gentlemen:—Without obligation send me your descriptive literature and quote me on the following: ( ) (2 or 3 lb.) packages of bees. ( ) Queens.

Signed .....

Address .....

### SOUR HONEY DEPT.

(Continued from page 744.)

sistant rabbit business. But best of all is talk Roots may not need a single extry man in their lumber yard all winter because of a big stock on hand due to poor business due to drout. If it only turns out true that will be the biggest thing me and Ab ever had to be happy over Thanksgivin. How we do hope so and hope for just another such summer next year to be thankful for next Thanksgivin and the next year after too and so on. Then another thing, I am thankful over is more and more recognishun by the big bugs in beekeepin. Here comes along a letter straight to me from Mister D. D. Stover in Mississippy sayin as how I am everlastinly right in endorsin his idee of sendin the queens right along in the bee packages already introduced by just mixin bees from two or three hives when makin up the package. It saves two or three days to the queens layin and a lot of work and fuss, he says. Also he says that old Deyell who has Roots bee and queen business in charge or discharge may wake up in about 50 years and begin doin it hisself. Besides Stover writin me there is Mr. Frederick A. Frost of West Newton, Mass., as submits a new kind of frame for producin comb honey right in a extractin super. I say its good. Old Demuth and Ernie Root write him it aint. The idee is a wide brood frame for puttin section boxes in and then shovin the frame full of sections right in among the extractin frames so makin a sure fire comb honey harvest. The secret in his comb frame is one loose lower corner as fastens together just as simple by a square bent piece of tin as fastens into two slots cut in the frame one about a inch above and one to the side of the loose corner. It works easy in puttin the section boxes in the frame and protects 'em too. Its slicker than a pigs ear. All the trouble about it with Roots is they are afraid Mr. Frost will patent it and then they are out of the frame business. Me and he are takin the whole proposishun up together now lookin to a patent and if we don't make Roots squeal like a whole drove of pigs under a fence then I aint no guesser. It looks big now and another somethin to be thankful for.

Dr. G. R. Hickok, M. D., of Lakin, Kan., is another big bug in beekeepin as is comin to recognize me and writes about me and Jay Smith to Roots and they get jealous and mad and wont publish what he says. He was visitin me and Ab and Jay Smith recent and wrote Roots after gettin home he never had no time to visit them nor Demuth, nor old Deyell, all highbrows. That's what's the matter between them and Doc. Hickok, despite nobody ever writ a better piece about anybody than he did about me and Jay Smith.

OLD DRONE.

I hope somebody has a merry Christmas and a happy New Year, but it aint ever me. Since the above was writ the news comes that Roots begun takin on extry men in the lumber yard. O. D.

### TOLD BY THE JAY

(Continued from page 781.)

the question for discussion at our beekeepers' meetings will be concerning which size mesh gives best results. Sorry I could not get this information on wintering to you in time for this season, but before next winter comes the style will probably change anyway.

### A BEEKEEPER TOLD IT

(Continued from page 773.)

keeping down grass. Cows are clumsy and prefer the grass long, while horses are quite the contrary. But horses are very fond of the leaves and shoots of grapefruit trees, so for this reason I moved my hives to the open. Sometimes they get stung, but as the pain is less than that of some flies they do not mind much. They generally graze among the hives during the night.—J. Brown, Villarica, Paraguay.

E. B. SPITZER, Pres. E. R. ROOT, Vice Pres. H. E. AYLARD, Cashier

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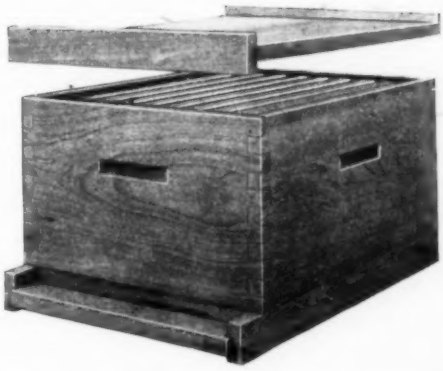

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|---|---|
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| Five 10-frame hives, metal covers | 1.95 each |
| Five 10-frame hive-bodies with best pine frames | 95c each |
| Five 10-frame 5⅜ shallow supers, with frames | 60c each |
| 100 Hoffman frames | 3.75 |
| 100 Shallow frames | 2.80 |

## The Stover Apiaries

Telegraph Office, Mayhew, Miss. Tibbee Station, Miss.

# Index to Gleanings in Bee Culture

## VOLUME LVIII, 1930

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